



October 16, 2024

New Mexico Oil Conservation Division

New Mexico Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Closure Request
MCA Unit #177
Incident Number nAPP2411745248
Lea County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of Maverick Permian, LLC (Maverick), has prepared this *Closure Request* to document assessment, excavation, and soil sampling activities performed at the MCA Unit #177 (Site). The purpose of the assessment, excavation, and soil sampling activities was to address impacts to soil resulting from a release of produced water at the Site. Based on the excavation activities and laboratory analytical results for the soil sampling events, Maverick is submitting this *Closure Request*, describing remediation that has occurred and requesting closure for Incident Number nAPP2411745248.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit J, Section 28, Township 17 South, Range 32 East, in Lea County, New Mexico (32.805544, -103.770938) and is associated with oil and gas exploration and production operations on federal land managed by the Bureau of Land Management (BLM).

On April 25, 2024, a well casing failure resulted in the release of approximately 33 barrels (bbls) of produced water onto the surface of the well pad, lease road, and into the adjacent pasture. No released fluids were recovered. Maverick reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on April 26, 2024. The release was assigned Incident Number nAPP2411745248.

SITE CHARACTERIZATION AND CLOSURE CRITERIA

The Site was characterized to assess the applicability of Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC). Results from the characterization are summarized below and detailed in the NMOCD permitting portal. Potential Site receptors are identified on Figure 1.

There is a network of over 20 monitoring wells within a 0.7-mile radius of the Site indicating depth to groundwater greater than 75 feet below ground surface (bgs). The monitoring wells are used to monitor groundwater impacts from historical releases at the Maljamar Gas Plant (Incident Number NAUTOFGP000196 and AP-115-1) and the MCA 357 (Incident Number NTO1423043689). The

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monitoring wells are temporary monitoring wells and are not used for domestic or livestock purposes, but solely to monitor existing groundwater impacts originating from historical releases at the Maljamar Gas Plant and MCA 357 locations. They are not utilized for any beneficial use and will be plugged and abandoned upon completion of corrective action. The monitoring wells are being sampled on a quarterly or semi-annual basis and results are reported to the NMOCD in annual reports. Based on the documented water quality and use of the monitoring wells, the monitoring wells are not being considered a sensitive receptor for this Site. This determination has been approved by the NMOCD multiple times for closure of releases in the area within the network of monitoring wells. All wells used for depth to groundwater determination are presented on Figure 1. The referenced well records are included in Appendix A.

The closest continuously flowing or significant watercourse to the Site is an emergent wetland, located approximately 2,000 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet from a spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 10,000 mg/kg

A reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of the area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Assessment activities were conducted at the Site to evaluate the release extent based on information provided on the Form C-141, the document release extent, and visual observations. Assessment soil samples SS01 through SS07 were collected around the visible release extent from a depth of 0.5 feet bgs to confirm the lateral extent of the surface release. Assessment soil samples SS08 through SS12 were collected within the release extent, to assess the surface soil within the release. The release extent and soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix B.

The assessment soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to Cardinal Laboratories for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 4500.

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Laboratory analytical results for assessment soil samples SS01 through SS07, collected around the release extent, indicated that all COC concentrations were compliant with the most stringent Table I Closure Criteria and provided lateral definition of the surface release. Laboratory analytical results for assessment soil samples SS08 through SS12, collected within the release extent, indicated that chloride concentrations exceeded the Site Closure Criteria and/or reclamation requirements. Laboratory analytical results are summarized on the attached Table 1. Based on visible staining in the release area and laboratory analytical results for the assessment soil samples, delineation and excavation activities were scheduled.

DELINEATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between June and September 2024, delineation activities were completed in coordination with excavation of impacted soil resulting from the April 25, 2024, produced water release. Potholes PH01 through PH12 were advanced within or around the release/excavation extent to delineate the impacted soil and direct excavation activities. The potholes were advanced to depths ranging from 3 feet to 11 feet bgs. Soil from the potholes was field screened at 1-foot intervals for VOCs and chloride. Field screening results and observations for the potholes were logged on lithologic soil sampling logs, which are included in Appendix C. Delineation soil samples were collected from the potholes at depths ranging from 1-foot to 11 feet bgs, for laboratory analysis. The delineation soil samples were handled following the same procedures as described above and submitted to Cardinal Laboratories for analysis of BTEX, TPH, and chloride. The pothole and delineation soil sample locations are presented on Figure 2.

Based on laboratory analytical results for the delineation samples, impacted soil was excavated to below the reclamation requirements in the top 4 feet and to below the Site Closure Criteria at depths below 4 feet. The final depth delineation sample from potholes PH01, PH02, PH03, PH05, PH07, PH08, and PH10, advanced within the release extent, provided vertical delineation of impacted soil to below the most stringent Table I Closure Criteria. Additionally, delineation samples from potholes PH09, PH11, and PH12, advanced on the south side (topographically downgradient) of the release extents, were compliant with the most stringent Table I Closure Criteria at depths ranging from 2 feet to 11 feet bgs and confirmed the lateral extent of impacted soil. Laboratory analytical results are summarized on Table 1 and the complete laboratory analytical reports are included as Appendix D.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between June and September 2024, Ensolum personnel were at the Site to oversee excavation of impacted soil based on the documented release extent and delineation soil sample analytical results. To direct excavation activities, soil was field screened for volatile aromatic hydrocarbons (VOCs) utilizing a calibrated photoionization detector (PID) and chloride Hach® chloride QuanTab® test strips. Excavation activities were performed utilizing a hydro-vacuum, backhoe, and transport vehicles. The excavation was completed to depths ranging from 4 feet to 11 feet bgs.

Following removal of impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 through FS94 were collected from the floor of the excavation at depths ranging from 4-feet to 11 feet bgs. Composite soil samples SW01 through SW38 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 11 feet bgs. The excavation soil samples were handled following the same procedures as described above and submitted to Cardinal Laboratories for analysis of BTEX, TPH, and chloride. The excavation extent and excavation soil sample locations were mapped utilizing a handheld GPS and are presented on Figure 3. Photographic documentation was completed during the Site visits and a photographic log is included in Appendix B.

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Laboratory analytical results for excavation floor samples FS01 through FS94 and excavation sidewall samples SW01 through SW38, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements for samples collected in the top 4 feet.

The final excavation measured approximately 18,500 square feet in areal extent. A total of approximately 4,900 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Disposal Facility located in Hobbs, New Mexico.

RECLAMATION ACTIVITIES

Upon completion of excavation activities and receipt of final laboratory analytical results, the excavation was backfilled with locally procured soil. One representative 5-point composite sample (Backfill) was collected from the topsoil backfill material. The backfill soil sample was handled and analyzed following the same procedures as described above. Laboratory analytical results for the backfill soil sample confirmed compliance with the NMOCD requirement for the reclaimed area to contain non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg and TPH concentrations less than 100 mg/kg. The laboratory analytical results are summarized on the attached Table 1 and the complete laboratory analytical report is included as Appendix D.

Following backfill activities, the disturbed pasture area was recontoured to match the surrounding topography and the surface was prepared for seeding. The disturbed pasture area was seeded with the BLM sandy sites seed mix #2 at the rate specified in pounds of pure live seed (PLS) per acre.

Species/Cultivar	PLS/Acre
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

The seed mix was distributed with a drill seeder. Photographs of the reclaimed excavation area are provided in Appendix B.

The Site will be monitored for vegetation growth to ensure that reclamation activities were successful. Focus for this phase will be to prevent erosion and site degradation, and to monitor for and treat invasive and noxious weed species.

- Erosion control of the newly reclaimed areas includes prompt revegetation and contouring of the surface to prevent concentrated surface water flow.
- Annual inspections will take place at the location to assess revegetation progress until vegetation is consistent with local natural vegetation density.
- If necessary, an additional application of the BLM seed mix will be applied.
- Noxious and invasive weeds will be identified and treated by licensed contracted herbicide applicator or mechanically removed.

A *Revegetation Report* will be submitted to the NMOCD once vegetation growth in the reclaimed pasture area has uniform vegetative cover that reflects a life-form ratio of plus or minus fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds, per NMAC 19.15.29.13 D.(3).

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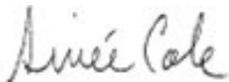
Site assessment and excavation activities were conducted at the Site to address the April 25, 2024, release of produced water. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COC concentrations were compliant with the Site Closure Criteria and reclamation requirements, where applicable. Based on the laboratory analytical results, no further remediation is required.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater is well documented to be greater than 75 feet bgs and no sensitive receptors were identified near the release extent. The impacted soil at the Site was excavated to below the most stringent Table I Closure Criteria in the top 4 feet of the release extent and to below the Site Closure Criteria at depths greater than 4 feet. Additionally, the release was delineated vertically to below the most stringent Table I Closure Criteria.

Maverick believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number nAPP2411745248.

If you have any questions or comments, please contact Ms. Aimee Cole at (720) 384-7365 or acole@ensolum.com.

Sincerely,
Ensolum, LLC



Aimee Cole
Senior Managing Scientist

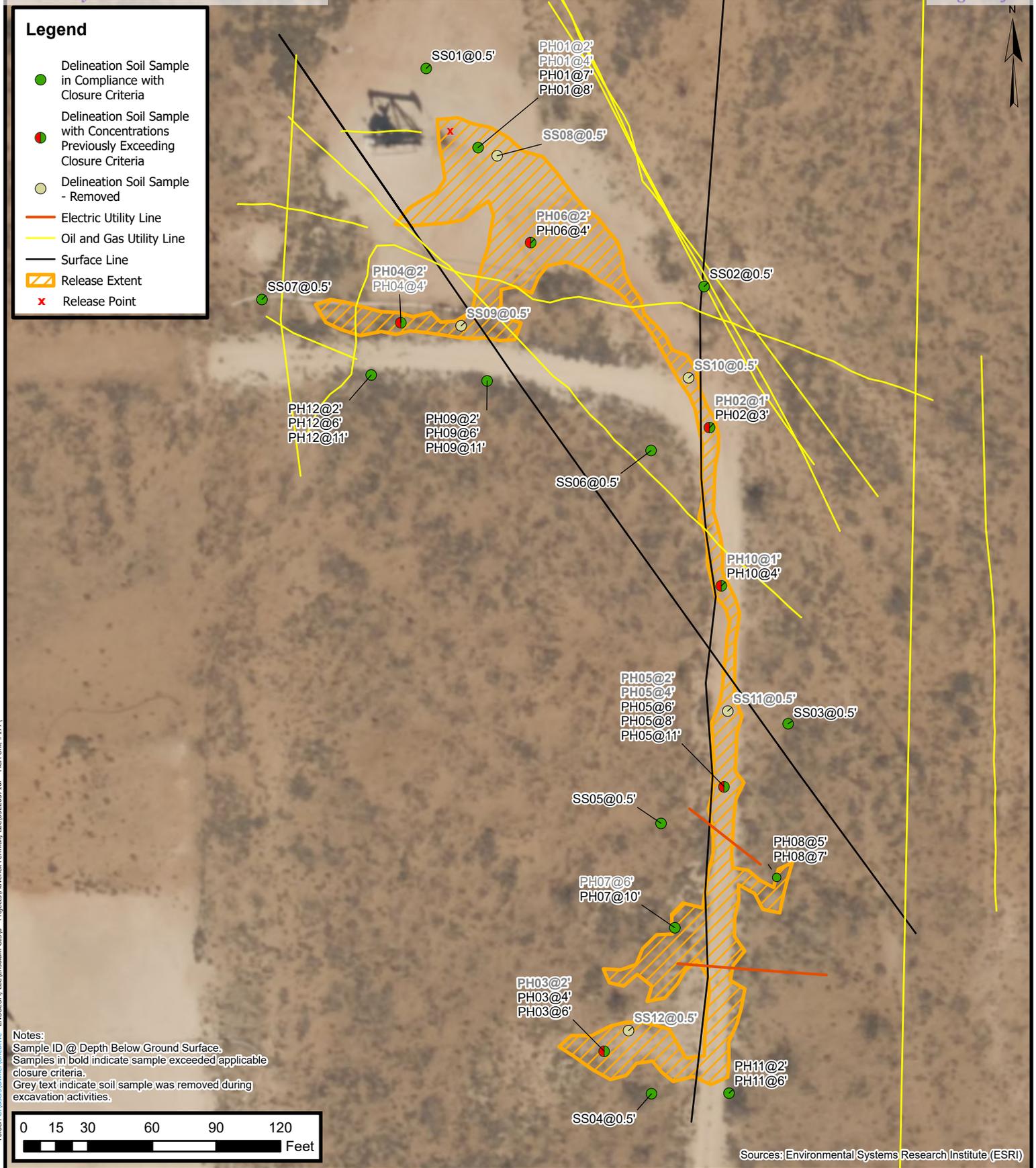
cc: Bryce Wagoner, Maverick Natural Resources
Bureau of Land Management

Appendices:

Figure 1	Site Receptor Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	Referenced Well Records
Appendix B	Photographic Log
Appendix C	Lithologic Soil Sampling Logs
Appendix D	Laboratory Analytical Reports & Chain of Custody Documentation



FIGURES



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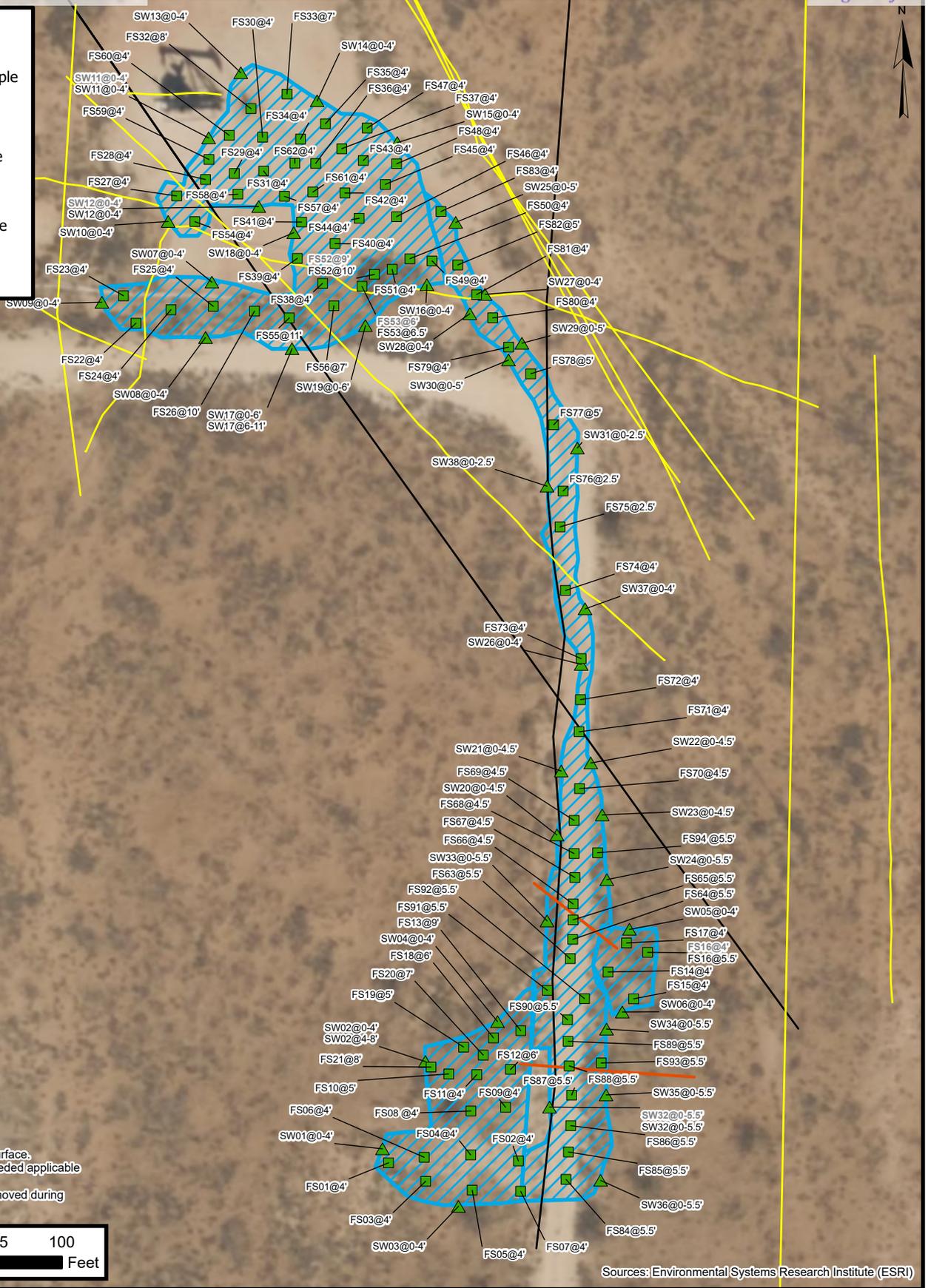
Delineation Soil Sample Locations

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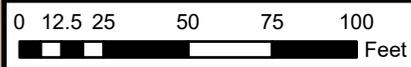
FIGURE
2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- ▲ Excavation Sidewall Sample in Compliance with Closure Criteria
- Electric Utility Line
- Oil and Gas Utility Line
- Surface Line
- Excavation Extent



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold indicate sample exceeded applicable closure criteria.
 Grey text indicate soil sample was removed during excavation activities.



Excavation Soil Sample Locations

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FIGURE

3





TABLES



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS MCA Unit #177 Maverick Permian, LLC Lea County, New Mexico										
Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
Assessment Soil Samples										
SS01	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS02	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SS03	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS04	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS05	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS06	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS07	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SS08	06/06/2024	0.5	<0.050	<0.300	<10.0	14.4	<10.0	14.4	14.4	68,000
SS09	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,400
SS10	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	29,600
SS11	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	73,600
SS12	06/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	46,400
Delineation Soil Samples										
PH01*	06/18/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
PH01	06/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,440
PH01	08/20/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	992
PH01	08/20/2024	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
PH02*	06/26/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,000
PH02	06/26/2024	3	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
PH03*	06/19/2024	2	<0.050	<0.300	<10.0	43.7	37.8	43.7	81.5	1,380
PH03	06/19/2024	4	<0.050	<0.300	<10.0	52.1	41.9	52.1	94.0	784
PH03	09/25/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
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Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
PH04*	06/26/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,460
PH04	06/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,860
PH05*	06/26/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,460
PH05	06/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	19,000
PH05	09/25/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,520
PH05	09/25/2024	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,640
PH05	09/25/2024	11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	368
PH06*	06/26/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	12,400
PH06	06/26/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	608
PH07	07/02/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,300
PH07	09/25/2024	10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
PH08	07/02/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
PH08	07/02/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
PH09*	08/21/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
PH09	08/21/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
PH09	08/21/2024	11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
PH10*	08/27/2024	1	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,360
PH10	08/27/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	144
PH11*	09/25/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
PH11	09/25/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
PH12*	09/26/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
PH12	09/26/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
PH12	09/26/2024	11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0



TABLE 1
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Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
Excavation Floor Soil Samples										
FS01	06/24/2024	4	<0.050	<0.300	<10.0	130	98.5	130	229	720
FS02	06/24/2024	4	<0.050	<0.300	<10.0	487	187	487	674	5,600
FS03	06/25/2024	4	<0.050	<0.300	<10.0	44.5	28.1	44.5	72.6	384
FS04	06/26/2024	4	<0.050	<0.300	<10.0	112	79.2	112	191	1,790
FS05	06/27/2024	4	<0.050	<0.300	<10.0	65.0	42.0	65.0	107	784
FS06	06/28/2024	4	<0.050	<0.300	<10.0	35.9	13.5	35.9	49.4	2,960
FS07	06/29/2024	4	<0.050	<0.300	<10.0	38.3	37.4	38.3	75.7	1,390
FS08	06/27/2024	4	<0.050	<0.300	<10.0	62.1	66.5	62.1	129	1,020
FS09	06/27/2024	4	<0.050	<0.300	<10.0	88.6	97.1	88.6	186	1,040
FS10	07/03/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,040
FS11	06/27/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,800
FS12	07/09/2024	6	<0.050	<0.300	<10.0	259	165	259	424	7,520
FS13	09/16/2024	9	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	672
FS14	06/27/2024	4	<0.050	<0.300	<10.0	34.7	12.3	34.7	47.0	6,500
FS15	06/27/2024	4	<0.050	<0.300	<10.0	10.6	<10.0	10.6	<10.0	6,480
FS16	06/27/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	13,600
FS16	07/09/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,200
FS17	07/03/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	608
FS18	07/09/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,800
FS19	07/03/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,240
FS20	07/10/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,480



TABLE 1
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 Lea County, New Mexico

Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
FS21	07/16/2024	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	720
FS22	07/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,320
FS23	07/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,040
FS24	07/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,440
FS25	07/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,470
FS26	08/19/2024	10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,700
FS27	07/17/2024	4	<0.050	<0.300	<10.0	10.4	16.2	10.4	26.6	2,160
FS28	07/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,020
FS29	07/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
FS30	07/17/2024	4	<0.050	<0.300	<10.0	40.6	17.4	40.6	58.0	1,220
FS31	07/17/2024	4	<0.050	<0.300	<10.0	29.8	19.7	29.8	49.5	976
FS32	08/14/2024	8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,120
FS33	08/14/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,480
FS34	07/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,720
FS35	07/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,640
FS36	07/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,600
FS37	07/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
FS38	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,760
FS39	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,720
FS40	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,720
FS41	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,120
FS42	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,440



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 MCA Unit #177
 Maverick Permian, LLC
 Lea County, New Mexico

Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
FS43	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,380
FS44	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,840
FS45	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,630
FS46	07/22/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,560
FS47	08/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,410
FS48	08/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,640
FS49	08/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	992
FS50	08/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	544
FS51	08/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
FS52	08/16/2024	9	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16,200
FS52	08/23/2024	10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	480
FS53	08/12/2024	6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	18,800
FS53	08/19/2024	6.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,900
FS54	08/12/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
FS55	08/19/2024	11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	9,730
FS56	08/16/2024	7	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,920
FS57	08/13/2024	4	<0.050	<0.300	<10.0	65.4	45.9	65.4	111	1,380
FS58	08/13/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	400
FS59	08/13/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	976
FS60	08/13/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	768
FS61	08/13/2024	4	<0.050	<0.300	<10.0	36.8	20.7	36.8	57.5	5,200
FS62	08/13/2024	4	<0.050	<0.300	<10.0	296	165	296	461	4,800



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 MCA Unit #177
 Maverick Permian, LLC
 Lea County, New Mexico

Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
FS63	09/06/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	8,160
FS64	09/06/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,800
FS65	09/06/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,800
FS66	09/10/2024	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,240
FS67	09/10/2024	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,720
FS68	09/10/2024	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,160
FS69	09/10/2024	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,920
FS70	09/10/2024	4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,640
FS71	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,320
FS72	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	624
FS73	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	656
FS74	09/18/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
FS75*	09/18/2024	2.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	400
FS76*	09/18/2024	2.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	256
FS77	09/18/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,550
FS78	09/18/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,160
FS79	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,520
FS80	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,160
FS81	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,240
FS82	09/18/2024	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,900
FS83	09/17/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,160
FS84	09/16/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
FS85	09/16/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,360



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 MCA Unit #177
 Maverick Permian, LLC
 Lea County, New Mexico

Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
FS86	09/16/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
FS87	09/16/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,040
FS88	09/16/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,040
FS89	09/16/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,920
FS90	09/16/2024	5.5	<0.050	<0.300	<10.0	71.2	34.1	71.2	105	3,160
FS91	09/16/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	6,080
FS92	09/16/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	7,360
FS93	09/18/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,320
FS94	09/20/2024	5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,800
Excavation Sidewall Soil Samples										
SW01*	6/27/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW02*	7/2/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW02	7/22/2024	4 - 8	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,080
SW03*	6/24/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW04*	7/2/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW05*	7/2/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SW06*	6/27/2024	0 - 4	<0.050	<0.300	<10.0	20.1	<10.0	20.1	20.1	32.0
SW07*	8/5/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW08*	7/22/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW09*	7/17/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW10*	8/13/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW11*	7/17/2024	0 - 4	<0.050	<0.300	<10.0	587	268	587	855	528
SW11*	8/13/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 MCA Unit #177
 Maverick Permian, LLC
 Lea County, New Mexico

Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
SW12*	7/17/2024	0 - 4	<0.050	<0.300	<10.0	2,930	1,170	2,930	4,100	96.0
SW12*	8/5/2024	0 - 4	<0.050	<0.300	<10.0	10.1	<10.0	10.1	10.1	160
SW13*	7/18/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	416
SW14*	7/18/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SW15*	8/5/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	384
SW16*	8/5/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
SW17*	8/13/2024	0 - 6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SW17	8/23/2024	6 - 11	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,400
SW18*	7/22/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SW19*	8/13/2024	0 - 6	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW20*	9/17/2024	0 - 4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	128.0
SW21*	9/17/2024	0 - 4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW22*	9/20/2024	0 - 4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW23*	9/18/2024	0 - 4.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
SW24*	9/18/2024	0 - 5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW25*	9/20/2024	0 - 5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
SW26*	9/23/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW27*	9/20/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SW28*	9/20/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW29*	9/23/2024	0 - 5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
SW30*	9/20/2024	0 - 5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW31*	9/23/2024	0 - 2.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW32*	9/17/2024	0 - 5.5	<0.050	<0.300	<10.0	62.6	48.1	62.6	111	336
SW32*	9/23/2024	0 - 5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448



TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS MCA Unit #177 Maverick Permian, LLC Lea County, New Mexico										
Sample Designation	Sample Date	Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	10,000
NMOCD Reclamation Requirement for the top four feet of off-pad areas.			NE	NE	NE	NE	NE	NE	100	600
SW33*	9/17/2024	0 - 5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW34*	9/18/2024	0 - 5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	272
SW35*	9/20/2024	0 - 5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW36*	9/18/2024	0 - 5.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
SW37*	9/23/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW38*	9/23/2024	0 - 2.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
Backfill Soil Sample										
Backfill	9/26/2024	-	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

NA: Not Analyzed

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Grey text represents samples that have been excavated

** indicates sample was collected in area to be reclaimed after remediation is complete; reclamation requirement in the top 4 feet is 600 mg/kg for chloride and 100 mg/kg for TPH.*

*Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria or reclamation standard where applicable.*



APPENDIX A

Referenced Well Records



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

2019 MAY 15 AM 10 23

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) MW-7 POD 2		WELL TAG ID NO.		OSE FILE NO(S) RA-12721		
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451		
	WELL OWNER MAILING ADDRESS 901 W Wall St, Suite 100				CITY Midland	STATE TX	ZIP 79701
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 48	SECONDS 20.25	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND	
		LONGITUDE 103	46	15.89	W	* DATUM REQUIRED: WGS 84	
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357							

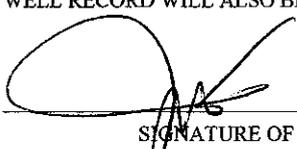
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456	NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.			
	DRILLING STARTED 04/18/2019	DRILLING ENDED 04/19/2019	DEPTH OF COMPLETED WELL (FT) 124.0	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT) 75.0			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) 86.85			
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	84.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	84.0	124.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010

3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
	FROM	TO				
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite	1.963	Pump Mix w/Tremie Pipe
	10.0	77.0	6.0	Bentonite Chips	20 Bags	Hand Mix
77.0	124.0	6.0	20/40 Sand	16 Bags	Hand Mix	

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 04/30/19)			
FILE NO.	RA-12721	POD NO.	2	TRN NO.	645505
LOCATION	141 T17S R32E Sec 28	WELL TAG ID NO.	NA	PAGE 1 OF 2	

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)		ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
	FROM	TO			Y	N	
	0.0	3.0	3.0	Brown sand	Y	✓ N	
	3.0	5.0	2.0	Brown clayey sand	Y	✓ N	
	5.0	7.0	2.0	Tan brown sand	Y	✓ N	
	7.0	22.0	15.0	Light brown sand	Y	✓ N	
	22.0	26.0	4.0	Brown sand/sandstone w/gravel	Y	✓ N	
	26.0	52.0	26.0	Brown sand/sandstone	Y	✓ N	
	52.0	56.0	4.0	Gray/brown sand/sandstone	Y	✓ N	
	56.0	99.0	43.0	Green, gray, and brown sand/sandstone layers	✓ Y	N	
	99.0	102.0	3.0	Brown sandstone	✓ Y	N	
	102.0	103.0	1.0	Gray silty shale	✓ Y	N	
	103.0	105.0	2.0	Reddish brown silty shale	✓ Y	N	
	105.0	117.0	12.0	Dark brown/reddish brown silty shale	✓ Y	N	
	117.0	118.0	1.0	Gray siltstone	✓ Y	N	
	118.0	120.0	2.0	Dark red silty shale	✓ Y	N	
	120.0	121.0	1.0	Brown sand	✓ Y	N	
	121.0	124.0	3.0	Dark red silty shale	✓ Y	N	
					Y	N	
					Y	N	
					Y	N	
					Y	N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00		
<input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:							

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins	

6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.	
	 SIGNATURE OF DRILLER / PRINT SIGNEE NAME	5/7/2019 DATE

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 04/30/2019)	
FILE NO. RA-12721	POD NO. 2	TRN NO. 645505	
LOCATION 141 T17S R32E Sec 28	WELL TAG ID NO. NA	PAGE 2 OF 2	



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

2019 OCT 15 10:25

1. GENERAL AND WELL LOCATION	OSE POD NO. (WELL NO.) MW-8 POD3		WELL TAG ID NO.		OSE FILE NO(S). RA-12721	
	WELL OWNER NAME(S) ConocoPhillips Company				PHONE (OPTIONAL) 432-258-3451	
	WELL OWNER MAILING ADDRESS 901 W Wall St, Suite 100				CITY Midland	STATE TX
					ZIP 79701	
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 48	SECONDS 6.23	N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND
	LONGITUDE 103	46	2.18	W	* DATUM REQUIRED: WGS 84	
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS - PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE MCA 357						

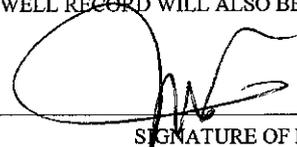
2. DRILLING & CASING INFORMATION	LICENSE NO. WD-1456		NAME OF LICENSED DRILLER John W. White			NAME OF WELL DRILLING COMPANY White Drilling Company, Inc.		
	DRILLING STARTED 04/18/2019	DRILLING ENDED 04/19/2019	DEPTH OF COMPLETED WELL (FT) 115.0	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)			
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input type="checkbox"/> DRY HOLE <input checked="" type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) 92.8		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (feet bgl)		BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
	FROM	TO						
	-2.7	85.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	
	85.0	115.0	6.0	Sch. 40 PVC	Threads	2.0	1/4"	.010

3. ANNULAR MATERIAL	DEPTH (feet bgl)		BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
	FROM	TO				
	0.0	10.0	6.0	Type 2 Portland Cement w/5% Bentonite	1.963	Pump Mix w/Tremie Pipe
	10.0	82.0	6.0	Bentonite Chips	21 Bags	Hand Mix
82.0	115.0	6.0	20/40 Sand	16 Bags	Hand Mix	

FOR OSE INTERNAL USE		WR-20 WELL RECORD & LOG (Version 04/30/19)			
FILE NO.	RA-12721	POD NO.	3	TRN NO.	645505
LOCATION	342 T725 R 32E Sec 28	WELL TAG ID NO.	N/A	PAGE 1 OF 2	

4. HYDROGEOLOGIC LOG OF WELL	DEPTH (feet bgl)		THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)		ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
	FROM	TO			Y	N	
	0.0	0.5	0.5	Caliche base	Y	✓ N	
	0.5	5.5	5.0	Brown sand/clayey sand	Y	✓ N	
	5.5	22.0	16.5	Caliche	Y	✓ N	
	22.0	34.0	12.0	Tan brown sand/sandstone	Y	✓ N	
	34.0	35.0	1.0	Tan brown sand/sandstone gravel	Y	✓ N	
	35.0	44.0	9.0	Brown sand/sandstone	Y	✓ N	
	44.0	47.0	3.0	Light brown sand w/gravel	Y	✓ N	
	47.0	66.0	19.0	Light tan/brown sand/sandstone	Y	✓ N	
	66.0	67.0	1.0	Brown sand/sandstone	Y	✓ N	
	67.0	72.0	5.0	Light brown sand/sandstone	Y	✓ N	
	72.0	83.0	11.0	Green/tan sandstone	Y	✓ N	
	83.0	86.0	3.0	Yellow/brown and green/brown sandstone	Y	✓ N	
	86.0	88.0	2.0	Conglomerated green/gray sandstone and gravel	Y	✓ N	
	88.0	111.0	23.0	Green/gray sandstone	✓ Y	N	
	111.0	112.0	1.0	Gray silty shale	✓ Y	N	
	112.0	114.0	2.0	Dark reddish brown silty shale	✓ Y	N	
	114.0	115.0	1.0	Reddish brown sandstone	✓ Y	N	
	115.0	116.0	1.0	Dark reddish brown silty shale	✓ Y	N	
					Y	N	
					Y	N	
					Y	N	
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA: <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> BAILER <input type="checkbox"/> OTHER - SPECIFY:					TOTAL ESTIMATED WELL YIELD (gpm): 0.00		

5. TEST; RIG SUPERVISION	WELL TEST	TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	MISCELLANEOUS INFORMATION:	
	PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE: William B. Atkins	

6. SIGNATURE	BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.	
	 _____ SIGNATURE OF DRILLER / PRINT SIGNEE NAME	5/7/2019 _____ DATE

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO. RA-12721	POD NO. 3	TRN NO. 645505	
LOCATION 342 Sec 28 T17S R32E	WELL TAG ID NO.		PAGE 2 OF 2



APPENDIX B

Photographic Log



Photographic Log
Maverick Permian, LLC
MCA Unit #177
Incident Number nAPP2411745248



Photograph 1 Date: 04/26/2024
Description Release area on pad
View: South



Photograph 2 Date: 04/26/2024
Description: Release area on lease road
View: South



Photograph 3 Date: 04/26/2024
Description Release area in pasture
View: East



Photograph 4 Date: 04/26/2024
Description: Release area in pasture
View: Southeast



Photographic Log
Maverick Permian, LLC
MCA Unit #177
Incident Number nAPP2411745248



Photograph 5 Date: 07/17/2024
Description Excavation activities
View: South



Photograph 6 Date: 08/20/2024
Description: Excavation activities
View: East



Photograph 7 Date: 09/27/2024
Description Excavation activities
View: West



Photograph 8 Date: 08/13/2024
Description: Excavation activities
View: East



Photographic Log
Maverick Permian, LLC
MCA Unit #177
Incident Number nAPP2411745248



Photograph 9 Date: 07/02/2024
Description Excavation activities
View: North

Photograph 10 Date: 07/10/2024
Description: Excavation activities
View: South



Photograph 11 Date: 09/27/2024
Description Backfilling activities
View: West

Photograph 12 Date: 09/27/2024
Description: Backfilling activities
View: West



Photographic Log
Maverick Permian, LLC
MCA Unit #177
Incident Number nAPP2411745248

South Elevation

9°N (T) LAT: 32.804297 LON: -103.770483 ±13ft ▲ 3969ft



Photograph 13 Date: 10/04/2024
Description Backfilled and seeded excavation
View: North

South Elevation

357°N (T) LAT: 32.804079 LON: -103.770746 ±72ft ▲ 3944ft



Photograph 14 Date: 10/04/2024
Description: Backfilled and seeded excavation
View: North

East Elevation

284°W (T) LAT: 32.805363 LON: -103.770572 ±13ft ▲ 3973ft



Photograph 15 Date: 10/04/2024
Description Backfilled and seeded excavation
View: West

South Elevation

8°N (T) LAT: 32.804037 LON: -103.770597 ±19ft ▲ 3967ft



Photograph 16 Date: 10/04/2024
Description: Backfilled and seeded excavation
View: North

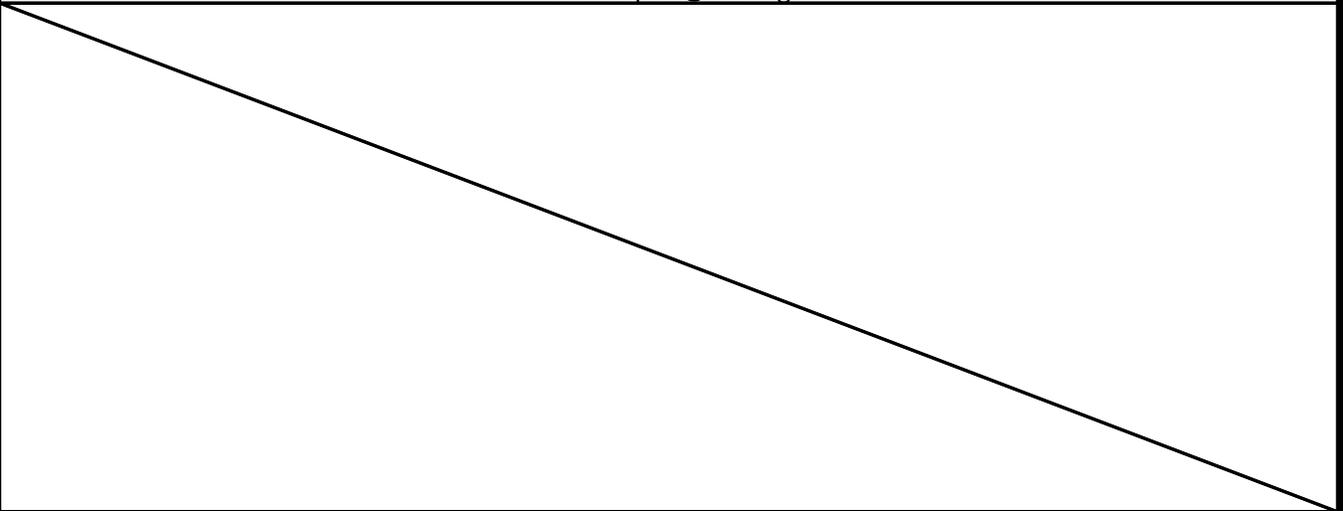


APPENDIX C

Lithologic Soil Sampling Logs

					PH01	Date: 6/18/2024		
					Site Name: MCA Unit #177 Release			
					Incident Number: nAPP2411745248			
					Job Number: 03E2057107			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Mario Sarkis	Method: Backhoe		
Coordinates: 32.80548, -103.77082					Hole Diameter: 2'	Total Depth: 8 ft bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	Caliche - Light to dark tan, medium dense, coarse to medium grain size, non plastic, dry, noncohesive, no hydrocarbon odor
M	442	1	N		1	1	SC	Clayey Sand - Medium brown to red, medium to very fine grain, dry, Non-Plastic, Noncohesive, Massive, Non-uniform
D	968	2.6	N	PH01	2	2		
D	968	0.8	N		3	3		
D	1,786	1.4	N	PH01	4	4		
D	1,722	1.8	N		5	5		
D	873	2.6	N		6	6		
D	1,220	1.2	N	PH01	7	7		
D	537	N/A	N	PH01	8	8		
Total depth @ 8 ft bgs								

					PH02		Date: 7/3/2024			
					Site Name: MCA Unit #177 Release					
					Incident Number: nAPP2411745248					
					Job Number: 03E2057107					
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Mario Sarkis		Method: Backhoe			
Coordinates: 32.805118, -103.770532					Hole Diameter: 2'		Total Depth: 3 ft bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
					0		CCHE	Caliche - Light to dark tan, medium dense, coarse to medium grain size, non plastic, dry, noncohesive, no hydrocarbon odor		
D	2,654	5.9	N	PH02	1	1	SC	Clayey Sand - Med brown to red, medium to very fine grain, Moist, Non-Plastic, Noncohesive, Massive, Non-uniform		
D	431	4.1	N			2				
D	341	4.0	N	PH02	3	3				
Total depth at 3 ft bgs										
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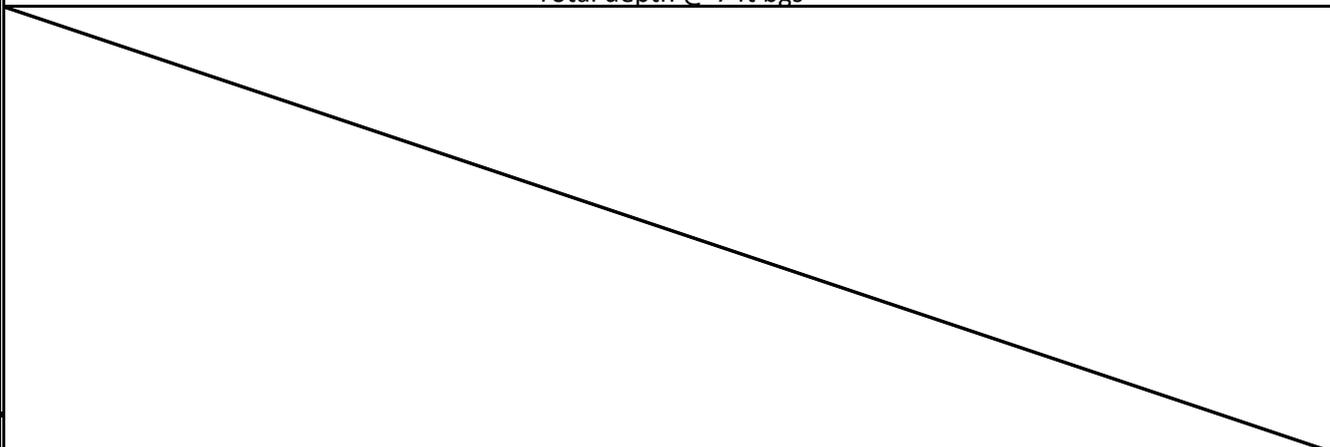
							PH03	Date: 6/19/2024
							Site Name: MCA Unit #177 Release	
							Incident Number: nAPP2411745248	
							Job Number: 03E2057107	
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: Mario Sarkis	Method: Backhoe
Coordinates: 32.804317, -103.770703							Hole Diameter: 2'	Total Depth: 6 ft bgs
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	1,758	0.8	N	PH03	0	1	SM	Sand - Med brown to tan, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform
D	1,881	0.5	N		2	2		
D	1,041	0.4	N	PH03	3	4	SC	Clayey Sand - Med brown to red, medium to very fine grain, dry, Non-Plastic, Noncohesive, Massive, Non-uniform
D	1,125	0.5	N		4	4		
D	<168	N/A	N	PH03	5	6	CCHE	Caliche - Light brown to tan, medium density, very fine grain, dry, non plastic, non cohesive, thickly bedded
D	<168	N/A	N		6	6		
Total depth @ 6 ft bgs								
								

							PH04	Date: 7/3/2024
							Site Name: MCA Unit #177 Release	
							Incident Number: nAPP2411745248	
							Job Number: 03E2057107	
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: Chad Hamilton	Method: Backhoe
Coordinates: 32.805258, -103.770999							Hole Diameter: 2'	Total Depth: 12 ft bgs
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SM	Sand - Med brown to tan, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform
D	10,869	2.1	N		1	1		
D	9,884	2.8	N	PH04	2	2		
D	12,896	3.2	N		3	3		
D	14,095	3.4	N	PH04	4	4		

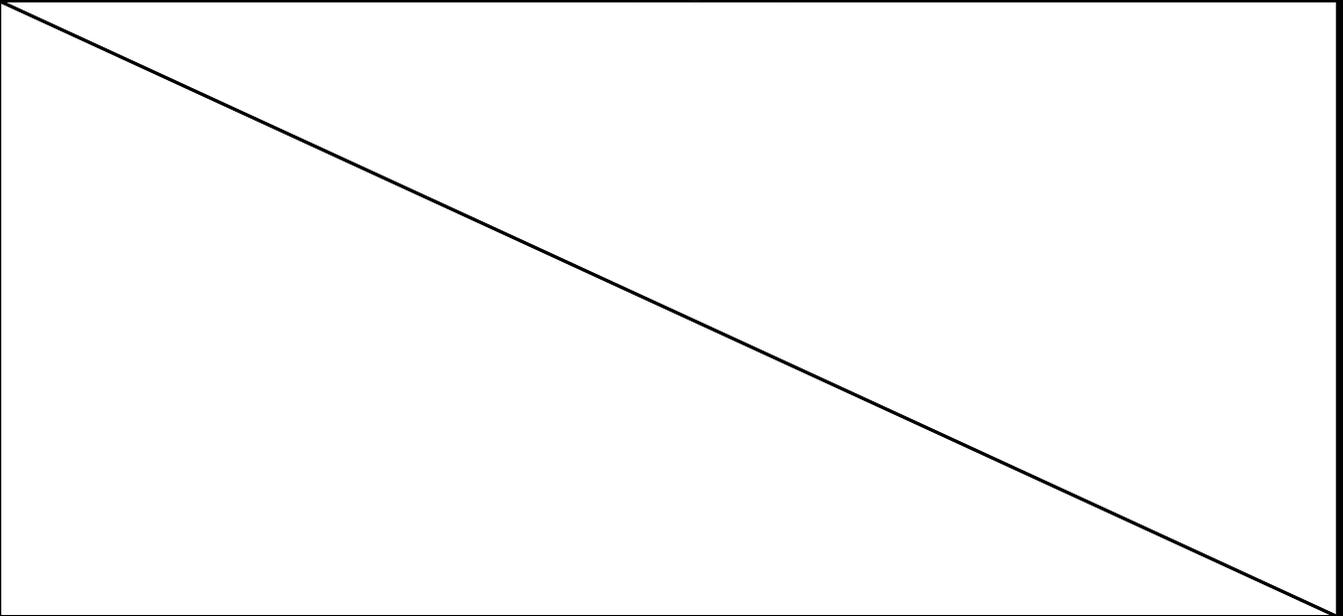
							PH05	Date: 7/3/2024
							Site Name: MCA Unit #177 Release	
							Incident Number: nAPP2411745248	
							Job Number: 03E2057107	
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: Mario Sarkis	Method: Backhoe
Coordinates: 32.804656, -103.770516							Hole Diameter: 2'	Total Depth: 12 ft bgs
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	Caliche - Light to dark tan, medium dense, coarse to medium grain size, non plastic, dry, noncohesive, no hydrocarbon odor
D	7,828	4.4	N			1		
D	11,827	6.2	N	PH05	2	2		
D	12,896	5.3	N			3		
D	23,016	3.2	N	PH05	4	4		
D						5		
D	1,870	N/A	N	PH05	6	6	SC	Clayey Sand - Med brown to red, medium to very fine grain, dry, Non-Plastic, Noncohesive, Massive, Non-uniform
D						7		
D	3,186	N/A	N	PH05	8	8		
D	1,192	N/A	N			9		
D						10		
D	515	N/A	N	PH05	11	11		
D	515	N/A	N			12		

					PH06		Date: 6/26/2024			
					Site Name: MCA Unit #177 Release					
					Incident Number: nAPP2411745248					
					Job Number: 03E2057107					
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Mario Sarkis		Method: Backhoe			
Coordinates: 32.805358, -103.770801					Hole Diameter: 2'		Total Depth: 4 ft bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
					0	0	CCHE	Caliche - Light to dark tan, medium dense, coarse to medium grain size, non plastic, dry, noncohesive, no hydrocarbon odor		
D	12,896	0.6	N		1	1		Clayey Sand - Med brown to red, medium to very fine grain, Moist, Non-Plastic, Noncohesive, Massive, Non-uniform		
D	20,692	1.9	N	PH06	2	2	SC			
D	2,654	1.1	N		3	3				
D	1,125	0.6	N	PH06	4	4				
Total depth at 4 ft bgs										
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					PH07	Date: 7/2/2024		
					Site Name: MCA Unit #177 Release			
					Incident Number: nAPP2411745248			
					Job Number: 03E2057107			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Chad Hamilton	Method: Backhoe		
Coordinates: 32.804475, -103.770594					Hole Diameter: 2'	Total Depth: 10 ft bgs		
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	SM	Sand - Med brown to tan, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform
						1		
						2		
						3	SC	Clayey Sand - Med brown to red, medium to very fine grain, Moist, Non-Plastic, Noncohesive, Massive, Non-uniform, Abrupt
						4		
M	4,969		N		5	5		
D	6,754		N	PH07	6	6		
D	1,302		N		7	7	CCHE	Caliche w/ some gravel - White to pink, Medium to fine grain w/ some small to large gravel, Dry, Non-Plastic, Noncohesive, Massive, Non-Uniform
D	1,410		N		8	8		
						9		
D	358		N	PH07	10	10	SC	Clayey Sand - Med brown to red, medium to very fine grain, moist, Non-Plastic, Noncohesive, Massive, Non-uniform, Abrupt
Total depth @ 10 ft bgs								

								Sample Name: PH08		Date: 7/2/2024	
								Site Name: MCA Unit #177 Release			
								Incident Number: nAPP2411745248			
								Job Number: 03E2057107			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: Chad Hamilton		Method: Backhoe	
Coordinates: 32.804549, -103.770451						Hole Diameter: 2'		Total Depth: 7 ft bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions			
						0	SM	Sand - Med brown to tan, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform			
						1	SC	Clayey Sand - Med brown to red, medium to very fine grain, Moist, Non-Plastic, Noncohesive, Massive, Non-uniform, Abrupt			
					2						
					3						
					4						
M	ND		N	PH08	5	5					
M	ND		N		6	6					
D	ND		N	PH08	7	7	CCHE	Caliche w/ some gravel - White to pink, Medium to fine grain w/ some small to large gravel, Dry, Non-Plastic, Noncohesive, Massive, Non-Uniform			
Total depth @ 7 ft bgs											
											

							Sample Name: PH09		Date: 8/21/2024					
							Site Name: MCA Unit #177 Release				Incident Number: nAPP2411745248			
							Job Number: 03E2057107				Logged By: Mario Sarkis		Method: Backhoe	
							Coordinates: 32.805166, -103.770882				Hole Diameter: 2'		Total Depth: 11 ft bgs	
LITHOLOGIC / SOIL SAMPLING LOG														
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.														
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions						
D	<168	2.0	N	PH09	2	0	SM	Sand - Med brown to red, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform						
D	<168	1.2	N		4	1								
D	<168	0.3	N	PH09	6	2	SM	Sand - Med brown to red, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform, small to large grains of caliche present						
D	<168	0.2	N		8	3	CCHE	Caliche - Light brown to tan, medium density, very fine grain, dry, non plastic, non cohesive, bedded						
D	<168	0.0	N		10	4								
D	<168	0.0	N	PH09	11	5	SM	Sand - Med brown to red, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform, small to large grains of caliche present						
						Total depth at 11 ft bgs								

		Sample Name: PH11		Date: 9/25/2024				
		Site Name: MCA Unit #177						
		Incident Number: nAPP2411745248						
		Job Number: 03E2057107						
LITHOLOGIC / SOIL SAMPLING LOG								
Coordinates: 32.804261, -103.770514			Logged By: Mario Sarkis		Method: Backhoe			
			Hole Diameter: 2'		Total Depth: 6 ft bgs			
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
M	<168		N	PH11	2	0 1 2 3 4 5 6	SC	Clayey Sand - Med brown to red, medium to very fine grain, moist, low plasticity, Noncohesive, Massive, Non-uniform
D	<168		N				CCHE	
D	<168		N	PH11	6	6		Caliche - Light brown to tan, medium density, very fine grain, dry, non plastic, non cohesive, thickly bedded
						Total depth @ 6 ft bgs		
								

							Sample Name: PH12		Date: 9/26/2024	
							Site Name: MCA Unit #177 Release			
							Incident Number: nAPP2411745248			
							Job Number: 03E2057107			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: Mario Sarkis		Method: Backhoe	
Coordinates: 32.805190, -103.771046							Hole Diameter: 2'		Total Depth: 11 ft bgs	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions		
D	<168		N	PH12	2	0	SM	Sand - Med brown to red, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform		
D	<168		N		4					
D	<168		N	PH12	6	5	CCHE	Small to large grains of caliche present		
D	<168		N		7					
D	<168		N		9	8	SM	Caliche - Light brown to tan, medium density, very fine grain, dry, non plastic, non cohesive, bedded		
D	<168		N		10					
D	<168		N	PH12	11	11		Sand - Med brown to red, medium to fine grain, Dry, Non-Plastic, Noncohesive, Thickly bedded, Non-uniform, small to large grains of caliche present		
Total depth at 11 ft bgs										



APPENDIX D

Laboratory Analytical Reports & Chain of Custody Documentation



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 12, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 06/06/24 16:09.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-23-16. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" and "K".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 01 0.25 (H243253-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46	
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60	
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34	
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15	
Total BTEX	<0.300	0.300	06/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/10/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/08/2024	ND	199	99.7	200	1.14	
DRO >C10-C28*	<10.0	10.0	06/08/2024	ND	192	95.8	200	2.81	
EXT DRO >C28-C36	<10.0	10.0	06/08/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 02 0.25 (H243253-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46		
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60		
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34		
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15		
Total BTEX	<0.300	0.300	06/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	06/10/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/08/2024	ND	199	99.7	200	1.14		
DRO >C10-C28*	<10.0	10.0	06/08/2024	ND	192	95.8	200	2.81		
EXT DRO >C28-C36	<10.0	10.0	06/08/2024	ND						

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 03 0.25 (H243253-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46		
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60		
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34		
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15		
Total BTEX	<0.300	0.300	06/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/10/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/08/2024	ND	199	99.7	200	1.14		
DRO >C10-C28*	<10.0	10.0	06/08/2024	ND	192	95.8	200	2.81		
EXT DRO >C28-C36	<10.0	10.0	06/08/2024	ND						

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 04 0.25 (H243253-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46		
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60		
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34		
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15		
Total BTEX	<0.300	0.300	06/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 89.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/10/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/08/2024	ND	199	99.7	200	1.14		
DRO >C10-C28*	<10.0	10.0	06/08/2024	ND	192	95.8	200	2.81		
EXT DRO >C28-C36	<10.0	10.0	06/08/2024	ND						

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 05 0.25 (H243253-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46		
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60		
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34		
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15		
Total BTEX	<0.300	0.300	06/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 86.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/10/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/07/2024	ND	175	87.5	200	0.204		
DRO >C10-C28*	<10.0	10.0	06/07/2024	ND	190	94.9	200	6.38		
EXT DRO >C28-C36	<10.0	10.0	06/07/2024	ND						

Surrogate: 1-Chlorooctane 108 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 06 0.25 (H243253-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46		
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60		
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34		
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15		
Total BTEX	<0.300	0.300	06/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/10/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/07/2024	ND	175	87.5	200	0.204		
DRO >C10-C28*	<10.0	10.0	06/07/2024	ND	190	94.9	200	6.38		
EXT DRO >C28-C36	<10.0	10.0	06/07/2024	ND						

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 07 0.25 (H243253-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46		
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60		
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34		
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15		
Total BTEX	<0.300	0.300	06/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/10/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/07/2024	ND	175	87.5	200	0.204		
DRO >C10-C28*	<10.0	10.0	06/07/2024	ND	190	94.9	200	6.38		
EXT DRO >C28-C36	<10.0	10.0	06/07/2024	ND						

Surrogate: 1-Chlorooctane 85.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 08 0.25 (H243253-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46	
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60	
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34	
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15	
Total BTEX	<0.300	0.300	06/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	68000	16.0	06/10/2024	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/07/2024	ND	175	87.5	200	0.204	
DRO >C10-C28*	14.4	10.0	06/07/2024	ND	190	94.9	200	6.38	
EXT DRO >C28-C36	<10.0	10.0	06/07/2024	ND					

Surrogate: 1-Chlorooctane 88.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 09 0.25 (H243253-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46	
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60	
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34	
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15	
Total BTEX	<0.300	0.300	06/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9400	16.0	06/10/2024	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/07/2024	ND	175	87.5	200	0.204	
DRO >C10-C28*	<10.0	10.0	06/07/2024	ND	190	94.9	200	6.38	
EXT DRO >C28-C36	<10.0	10.0	06/07/2024	ND					

Surrogate: 1-Chlorooctane 84.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.8 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 10 0.25 (H243253-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46		
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60		
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34		
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15		
Total BTEX	<0.300	0.300	06/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	29600	16.0	06/10/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/07/2024	ND	175	87.5	200	0.204		
DRO >C10-C28*	<10.0	10.0	06/07/2024	ND	190	94.9	200	6.38		
EXT DRO >C28-C36	<10.0	10.0	06/07/2024	ND						

Surrogate: 1-Chlorooctane 86.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 93.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 11 0.25 (H243253-11)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46		
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60		
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34		
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15		
Total BTEX	<0.300	0.300	06/08/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 87.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	73600	16.0	06/10/2024	ND	448	112	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/07/2024	ND	175	87.5	200	0.204		
DRO >C10-C28*	<10.0	10.0	06/07/2024	ND	190	94.9	200	6.38		
EXT DRO >C28-C36	<10.0	10.0	06/07/2024	ND						

Surrogate: 1-Chlorooctane 94.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/06/2024	Sampling Date:	06/06/2024
Reported:	06/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: SS 12 0.25 (H243253-12)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/08/2024	ND	1.93	96.5	2.00	1.46	
Toluene*	<0.050	0.050	06/08/2024	ND	1.94	97.1	2.00	3.60	
Ethylbenzene*	<0.050	0.050	06/08/2024	ND	1.99	99.3	2.00	4.34	
Total Xylenes*	<0.150	0.150	06/08/2024	ND	5.73	95.5	6.00	4.15	
Total BTEX	<0.300	0.300	06/08/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 88.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	46400	16.0	06/10/2024	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/07/2024	ND	175	87.5	200	0.204	
DRO >C10-C28*	<10.0	10.0	06/07/2024	ND	190	94.9	200	6.38	
EXT DRO >C28-C36	<10.0	10.0	06/07/2024	ND					

Surrogate: 1-Chlorooctane 96.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolium, LLC		BILL TO		ANALYSIS REQUEST											
Project Manager: <i>Aimee Cole</i>		P.O. #:													
Address: <i>3122 National parks Hwy</i>		Company: <i>Ensolium</i>													
City: <i>Carlsbad</i> State: <i>NM</i> Zip: <i>88220</i>		Attn: <i>Aimee Cole</i>													
Phone #: <i>(720) 384-7365</i> Fax #:		Address: <i>3122 National parks</i>													
Project #: <i>03E2057107</i> Project Owner: <i>Maverick</i>		City: <i>Carlsbad</i>													
Project Name: <i>MCA 177</i>		State: <i>NM</i> Zip: <i>88220</i>													
Project Location: <i>32.805452, -103.770906</i>		Phone #:													
Sampler Name: <i>Omar Hamdy</i>		Fax #:													

FOR LAB USE ONLY		Depth (feet)	(G/RAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.	SAMPLING		BTEX	TPH	Chlorides	
Lab I.D.	Sample I.D.			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL				OTHER:
<i>#1743253</i>	<i>SS01</i>	<i>0.25</i>	<i>C</i>			<i>X</i>				<i>X</i>	<i>6/6/24</i>	<i>9:45</i>	<i>X</i>	<i>X</i>	<i>X</i>
<i>1</i>	<i>SS02</i>												<i>X</i>	<i>X</i>	<i>X</i>
<i>2</i>	<i>SS03</i>												<i>X</i>	<i>X</i>	<i>X</i>
<i>3</i>	<i>SS04</i>												<i>X</i>	<i>X</i>	<i>X</i>
<i>4</i>	<i>SS05</i>												<i>X</i>	<i>X</i>	<i>X</i>
<i>5</i>	<i>SS06</i>												<i>X</i>	<i>X</i>	<i>X</i>
<i>6</i>	<i>SS07</i>												<i>X</i>	<i>X</i>	<i>X</i>
<i>7</i>	<i>SS08</i>												<i>X</i>	<i>X</i>	<i>X</i>
<i>8</i>	<i>SS09</i>												<i>X</i>	<i>X</i>	<i>X</i>
<i>9</i>	<i>SS10</i>												<i>X</i>	<i>X</i>	<i>X</i>

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Relinquished By: <i>Omar</i>	Date: <i>6/6/24</i> Time: <i>14:09</i>	Received By: <i>Omar Hamdy</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: <i>3.0</i> Corrected Temp. °C:	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/> Thermometer ID: <i>#113</i> Correction Factor: <i>-0.3°C</i>

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST												
Project Manager: <i>Aimee Cole</i>				P.O. #:																
Address: <i>3122 National parks Hwy</i>				Company: <i>Ensolum</i>																
City: <i>Carlsbad</i>		State: <i>NM</i>		Zip: <i>88220</i>		Attn: <i>Aimee Cole</i>														
Phone #: <i>(720) 384-7365</i>		Fax #:		Address: <i>3122 National parks</i>																
Project #: <i>03E2057107</i>		Project Owner: <i>Maverick</i>		City: <i>Carlsbad</i>																
Project Name: <i>MCA 177</i>				State: <i>NM</i>				Zip: <i>88220</i>												
Project Location: <i>32.805452, -103.770906</i>				Phone #:																
Sampler Name: <i>Omar Handy</i>				Fax #:																
FOR LAB USE ONLY																				
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.		SAMPLING									
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME						
<i>H243253</i>	<i>SS 11</i>	<i>0.25</i>	<i>C</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<i>6/6/24</i>	<i>10:10</i>	<i>BTEX</i>						
<i>12</i>	<i>SS 12</i>	<i>0.25</i>	<i>C</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<i>6/6/24</i>	<i>10:35</i>	<i>TPH</i>	<i>Chlorides</i>					
<i>OH</i>																				

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Relinquished By: <i>Omar</i>	Date: <i>6-6-24</i>	Received By: <i>Aparna</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:	
	Time: <i>11:09</i>		All Results are emailed. Please provide Email address: <i>a.cole@ensolum.com</i>		
Relinquished By:	Date:	Received By:	REMARKS:		
	Time:				
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C <i>3.6</i>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <i>AT</i>	Turnaround Time: Standard Rush <input checked="" type="checkbox"/>	Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No
	Corrected Temp. °C	<input type="checkbox"/> No <input type="checkbox"/> No	Thermometer ID <i>#143</i> Correction Factor <i>0.5°C</i>	<i>140</i>	<input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 24, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 06/18/24 13:46.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/18/2024	Sampling Date:	06/18/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805452, -103.770906		

Sample ID: PH01 2' (H243571-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/21/2024	ND	2.31	115	2.00	7.66	
Toluene*	<0.050	0.050	06/21/2024	ND	2.26	113	2.00	7.39	
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.20	110	2.00	7.00	
Total Xylenes*	<0.150	0.150	06/21/2024	ND	7.03	117	6.00	7.10	
Total BTEX	<0.300	0.300	06/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	06/20/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	175	87.7	200	3.70	
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	175	87.4	200	1.15	
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND					

Surrogate: 1-Chlorooctane 75.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 72.1 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/18/2024	Sampling Date:	06/18/2024
Reported:	06/24/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805452, -103.770906		

Sample ID: PH01 4' (H243571-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/21/2024	ND	1.99	99.5	2.00	4.24		
Toluene*	<0.050	0.050	06/21/2024	ND	2.08	104	2.00	4.23		
Ethylbenzene*	<0.050	0.050	06/21/2024	ND	2.13	106	2.00	3.88		
Total Xylenes*	<0.150	0.150	06/21/2024	ND	6.36	106	6.00	3.83		
Total BTEX	<0.300	0.300	06/21/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 127 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1440	16.0	06/20/2024	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/20/2024	ND	175	87.7	200	3.70		
DRO >C10-C28*	<10.0	10.0	06/20/2024	ND	175	87.4	200	1.15		
EXT DRO >C28-C36	<10.0	10.0	06/20/2024	ND						

Surrogate: 1-Chlorooctane 77.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.2 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 25, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 06/19/24 14:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/19/2024	Sampling Date:	06/19/2024
Reported:	06/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: PH 03 2 (H243615-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/22/2024	ND	1.88	93.8	2.00	3.33	
Toluene*	<0.050	0.050	06/22/2024	ND	1.97	98.6	2.00	1.21	
Ethylbenzene*	<0.050	0.050	06/22/2024	ND	2.04	102	2.00	0.883	
Total Xylenes*	<0.150	0.150	06/22/2024	ND	6.10	102	6.00	0.665	
Total BTEX	<0.300	0.300	06/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1380	16.0	06/21/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/22/2024	ND	209	105	200	0.531	
DRO >C10-C28*	43.7	10.0	06/22/2024	ND	219	109	200	1.96	
EXT DRO >C28-C36	37.8	10.0	06/22/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 100 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/19/2024	Sampling Date:	06/19/2024
Reported:	06/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805452, -103.770906		

Sample ID: PH 03 4 (H243615-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/22/2024	ND	1.88	93.8	2.00	3.33	
Toluene*	<0.050	0.050	06/22/2024	ND	1.97	98.6	2.00	1.21	
Ethylbenzene*	<0.050	0.050	06/22/2024	ND	2.04	102	2.00	0.883	
Total Xylenes*	<0.150	0.150	06/22/2024	ND	6.10	102	6.00	0.665	
Total BTEX	<0.300	0.300	06/22/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	784	16.0	06/21/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/22/2024	ND	209	105	200	0.531	
DRO >C10-C28*	52.1	10.0	06/22/2024	ND	219	109	200	1.96	
EXT DRO >C28-C36	41.9	10.0	06/22/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST													
Project Manager: Aimee Cole				P.O. #:																	
Address: 3122 National Parks Hwy				Company: ENSOLUM, LLC																	
City: Carlsbad		State: NM		Zip: 88220		Attn: Aimee Cole															
Phone #: (720) 384-7365		Fax #:		Address:																	
Project #: 03E2057107		Project Owner:		City:																	
Project Name: MCA 177		State:		Zip:		Phone #: 720-384-7365															
Project Location: 32.805452, -103.770906		Fax #:																			
Sampler Name: Mario Sarkis																					
FOR LAB USE ONLY																					
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		SAMPLING		DATE	TIME	BTEX	TPH	Chlorides		
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :								
H243615	PH03	2	G	1			✓				✓		6/19/24	1218	✓	✓	✓				
2	PH03	4	G	1			✓				✓		6/19/24	1222	✓	✓	✓				

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:		Date: 6/19/24	Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:
Time: 1:18					All Results are emailed. Please provide Email address:		
Relinquished By:		Date:	Received By:		REMARKS: acole@ensolum.com / MSarkis@ensolum.com		
Time:							
Delivered By: (Circle One)	Observed Temp. °C	Sample Condition		CHECKED BY: (Initials)	Turnaround Time:	Standard	<input checked="" type="checkbox"/>
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool Intact	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	AD	ADU-19-24	Rush	<input type="checkbox"/>
		Corrected Temp. °C	Yes <input type="checkbox"/> No <input type="checkbox"/>		Thermometer ID #143	140	
					Correction Factor -0.5°C		
							Bacteria (only) Sample Condition
							Cool Intact Observed Temp. °C
							Yes <input type="checkbox"/> No <input type="checkbox"/>
							Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

June 30, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 06/24/24 15:06.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/24/2024	Sampling Date:	06/24/2024
Reported:	06/30/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: FS 01 4 (H243745-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2024	ND	1.94	96.8	2.00	8.10	
Toluene*	<0.050	0.050	06/30/2024	ND	2.09	105	2.00	5.26	
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	2.15	108	2.00	3.71	
Total Xylenes*	<0.150	0.150	06/30/2024	ND	6.51	108	6.00	3.25	
Total BTEX	<0.300	0.300	06/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	06/28/2024	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/29/2024	ND	211	105	200	0.968	
DRO >C10-C28*	130	10.0	06/29/2024	ND	212	106	200	0.173	
EXT DRO >C28-C36	98.5	10.0	06/29/2024	ND					

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/24/2024	Sampling Date:	06/24/2024
Reported:	06/30/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: FS 02 4 (H243745-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/30/2024	ND	1.94	96.8	2.00	8.10	
Toluene*	<0.050	0.050	06/30/2024	ND	2.09	105	2.00	5.26	
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	2.15	108	2.00	3.71	
Total Xylenes*	<0.150	0.150	06/30/2024	ND	6.51	108	6.00	3.25	
Total BTEX	<0.300	0.300	06/30/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	06/28/2024	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/29/2024	ND	211	105	200	0.968	
DRO >C10-C28*	487	10.0	06/29/2024	ND	212	106	200	0.173	
EXT DRO >C28-C36	187	10.0	06/29/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/24/2024	Sampling Date:	06/24/2024
Reported:	06/30/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: FS 03 4 (H243745-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/30/2024	ND	1.94	96.8	2.00	8.10		
Toluene*	<0.050	0.050	06/30/2024	ND	2.09	105	2.00	5.26		
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	2.15	108	2.00	3.71		
Total Xylenes*	<0.150	0.150	06/30/2024	ND	6.51	108	6.00	3.25		
Total BTEX	<0.300	0.300	06/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	06/28/2024	ND	416	104	400	3.92	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/29/2024	ND	211	105	200	0.968		
DRO >C10-C28*	44.5	10.0	06/29/2024	ND	212	106	200	0.173		
EXT DRO >C28-C36	28.1	10.0	06/29/2024	ND						

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/24/2024	Sampling Date:	06/24/2024
Reported:	06/30/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: FS 04 4 (H243745-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/30/2024	ND	1.94	96.8	2.00	8.10		
Toluene*	<0.050	0.050	06/30/2024	ND	2.09	105	2.00	5.26		
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	2.15	108	2.00	3.71		
Total Xylenes*	<0.150	0.150	06/30/2024	ND	6.51	108	6.00	3.25		
Total BTEX	<0.300	0.300	06/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1790	16.0	06/28/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/29/2024	ND	211	105	200	0.968		
DRO >C10-C28*	112	10.0	06/29/2024	ND	212	106	200	0.173		
EXT DRO >C28-C36	79.2	10.0	06/29/2024	ND						

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/24/2024	Sampling Date:	06/24/2024
Reported:	06/30/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: FS 05 4 (H243745-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/30/2024	ND	1.94	96.8	2.00	8.10		
Toluene*	<0.050	0.050	06/30/2024	ND	2.09	105	2.00	5.26		
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	2.15	108	2.00	3.71		
Total Xylenes*	<0.150	0.150	06/30/2024	ND	6.51	108	6.00	3.25		
Total BTEX	<0.300	0.300	06/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	784	16.0	06/28/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/29/2024	ND	211	105	200	0.968		
DRO >C10-C28*	65.0	10.0	06/29/2024	ND	212	106	200	0.173		
EXT DRO >C28-C36	42.0	10.0	06/29/2024	ND						

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/24/2024	Sampling Date:	06/24/2024
Reported:	06/30/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: FS 06 4 (H243745-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/30/2024	ND	1.94	96.8	2.00	8.10		
Toluene*	<0.050	0.050	06/30/2024	ND	2.09	105	2.00	5.26		
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	2.15	108	2.00	3.71		
Total Xylenes*	<0.150	0.150	06/30/2024	ND	6.51	108	6.00	3.25		
Total BTEX	<0.300	0.300	06/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2960	16.0	06/28/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/29/2024	ND	211	105	200	0.968		
DRO >C10-C28*	35.9	10.0	06/29/2024	ND	212	106	200	0.173		
EXT DRO >C28-C36	13.5	10.0	06/29/2024	ND						

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.5 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/24/2024	Sampling Date:	06/24/2024
Reported:	06/30/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: FS 07 4 (H243745-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/30/2024	ND	1.94	96.8	2.00	8.10		
Toluene*	<0.050	0.050	06/30/2024	ND	2.09	105	2.00	5.26		
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	2.15	108	2.00	3.71		
Total Xylenes*	<0.150	0.150	06/30/2024	ND	6.51	108	6.00	3.25		
Total BTEX	<0.300	0.300	06/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1390	16.0	06/28/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/28/2024	ND	183	91.5	200	3.69		
DRO >C10-C28*	38.3	10.0	06/28/2024	ND	175	87.6	200	3.36		
EXT DRO >C28-C36	37.4	10.0	06/28/2024	ND						

Surrogate: 1-Chlorooctane 86.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/24/2024	Sampling Date:	06/24/2024
Reported:	06/30/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: SW 03 0-4 (H243745-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/30/2024	ND	1.94	96.8	2.00	8.10		
Toluene*	<0.050	0.050	06/30/2024	ND	2.09	105	2.00	5.26		
Ethylbenzene*	<0.050	0.050	06/30/2024	ND	2.15	108	2.00	3.71		
Total Xylenes*	<0.150	0.150	06/30/2024	ND	6.51	108	6.00	3.25		
Total BTEX	<0.300	0.300	06/30/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	06/28/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/28/2024	ND	183	91.5	200	3.69		
DRO >C10-C28*	<10.0	10.0	06/28/2024	ND	175	87.6	200	3.36		
EXT DRO >C28-C36	<10.0	10.0	06/28/2024	ND						

Surrogate: 1-Chlorooctane 84.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO												ANALYSIS REQUEST													
Project Manager: Aimee Cole				P.O. #:																									
Address: 3122 National Parks Hwy				Company: <u>ENSOLUM, LLC</u>																									
City: Carlsbad		State: NM		Zip: 88220		Attn: <u>Aimee Cole</u>																							
Phone #: (720) 384-7365		Fax #:		Address:																									
Project #: <u>03E2057107</u>		Project Owner:		City:																									
Project Name: <u>MCA 177</u>		State:												Zip:															
Project Location: <u>32.805544, -103.770938</u>				Phone #: <u>720-384-7365</u>																									
Sampler Name:				Fax #:																									
FOR LAB USE ONLY				MATRIX				PRESERV.				SAMPLING																	
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME															
<u>H23715</u>															<u>BTEX</u>	<u>TPH</u>	<u>Chlorides</u>												
<u>1</u>	<u>FS01</u>	<u>4</u>	<u>C</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<u>6/24/24</u>	<u>1031</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
<u>2</u>	<u>FS02</u>	<u>4</u>	<u>C</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			<u>1035</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
<u>3</u>	<u>FS03</u>	<u>4</u>	<u>C</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			<u>1034</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
<u>4</u>	<u>FS04</u>	<u>4</u>	<u>C</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			<u>1041</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
<u>5</u>	<u>FS05</u>	<u>4</u>	<u>C</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			<u>1036</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
<u>6</u>	<u>FS06</u>	<u>4</u>	<u>C</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			<u>1031</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
<u>7</u>	<u>FS07</u>	<u>4</u>	<u>C</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			<u>1038</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												
<u>8</u>	<u>SW03</u>	<u>0-4</u>	<u>C</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>			<u>1042</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												

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Relinquished By:	Date: <u>6/24/24</u>	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: <u>1343</u>		All Results are emailed. Please provide Email address:	
			<u>acole@ensolum.com / msarh@ensolum.com</u>	
Relinquished By:	Date: <u>6-24-24</u>	Received By:	REMARKS:	
	Time: <u>1506</u>			
Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY: (Initials)	Turnaround Time:
Sampler - UPS - Bus - Other:	<u>58.8</u>	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	<u>AD</u>	<u>APU-24-24</u>
	Corrected Temp. °C	<input type="checkbox"/> Yes <input type="checkbox"/> No		Standard <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
				Bacteria (only) Sample Condition
				Cool Intact Observed Temp. °C
				<input type="checkbox"/> Yes <input type="checkbox"/> No
				Thermometer ID #113
				Correction Factor -0.5°C
				<u>+140</u>

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 03, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 06/26/24 14:49.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2024	Sampling Date:	06/26/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: PH 02 1' (H243835-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2024	ND	1.99	99.6	2.00	3.84	
Toluene*	<0.050	0.050	07/02/2024	ND	2.16	108	2.00	4.28	
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.17	109	2.00	4.65	
Total Xylenes*	<0.150	0.150	07/02/2024	ND	6.73	112	6.00	4.30	
Total BTEX	<0.300	0.300	07/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	07/02/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	208	104	200	3.62	
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	195	97.4	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2024	Sampling Date:	06/26/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: PH 02 3' (H243835-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2024	ND	1.99	99.6	2.00	3.84	
Toluene*	<0.050	0.050	07/02/2024	ND	2.16	108	2.00	4.28	
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.17	109	2.00	4.65	
Total Xylenes*	<0.150	0.150	07/02/2024	ND	6.73	112	6.00	4.30	
Total BTEX	<0.300	0.300	07/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	07/02/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	208	104	200	3.62	
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	195	97.4	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2024	Sampling Date:	06/26/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: PH 05 2' (H243835-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2024	ND	1.99	99.6	2.00	3.84		
Toluene*	<0.050	0.050	07/02/2024	ND	2.16	108	2.00	4.28		
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.17	109	2.00	4.65		
Total Xylenes*	<0.150	0.150	07/02/2024	ND	6.73	112	6.00	4.30		
Total BTEX	<0.300	0.300	07/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7460	16.0	07/02/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	208	104	200	3.62		
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	195	97.4	200	2.36		
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND						

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2024	Sampling Date:	06/26/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: PH 05 4' (H243835-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2024	ND	1.99	99.6	2.00	3.84		
Toluene*	<0.050	0.050	07/02/2024	ND	2.16	108	2.00	4.28		
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.17	109	2.00	4.65		
Total Xylenes*	<0.150	0.150	07/02/2024	ND	6.73	112	6.00	4.30		
Total BTEX	<0.300	0.300	07/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	19000	16.0	07/02/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	208	104	200	3.62		
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	195	97.4	200	2.36		
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND						

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2024	Sampling Date:	06/26/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: PH 04 2' (H243835-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2024	ND	1.99	99.6	2.00	3.84		
Toluene*	<0.050	0.050	07/02/2024	ND	2.16	108	2.00	4.28		
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.17	109	2.00	4.65		
Total Xylenes*	<0.150	0.150	07/02/2024	ND	6.73	112	6.00	4.30		
Total BTEX	<0.300	0.300	07/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7460	16.0	07/02/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	208	104	200	3.62		
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	195	97.4	200	2.36		
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND						

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2024	Sampling Date:	06/26/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: PH 04 4' (H243835-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2024	ND	1.99	99.6	2.00	3.84		
Toluene*	<0.050	0.050	07/02/2024	ND	2.16	108	2.00	4.28		
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.17	109	2.00	4.65		
Total Xylenes*	<0.150	0.150	07/02/2024	ND	6.73	112	6.00	4.30		
Total BTEX	<0.300	0.300	07/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9860	16.0	07/02/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	208	104	200	3.62		
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	195	97.4	200	2.36		
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND						

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2024	Sampling Date:	06/26/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: PH 06 2' (H243835-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2024	ND	1.99	99.6	2.00	3.84		
Toluene*	<0.050	0.050	07/02/2024	ND	2.16	108	2.00	4.28		
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.17	109	2.00	4.65		
Total Xylenes*	<0.150	0.150	07/02/2024	ND	6.73	112	6.00	4.30		
Total BTEX	<0.300	0.300	07/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	12400	16.0	07/02/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	208	104	200	3.62		
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	195	97.4	200	2.36		
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND						

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 111 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/26/2024	Sampling Date:	06/26/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770438		

Sample ID: PH 06 4' (H243835-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2024	ND	1.99	99.6	2.00	3.84	
Toluene*	<0.050	0.050	07/02/2024	ND	2.16	108	2.00	4.28	
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.17	109	2.00	4.65	
Total Xylenes*	<0.150	0.150	07/02/2024	ND	6.73	112	6.00	4.30	
Total BTEX	<0.300	0.300	07/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	07/02/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	208	104	200	3.62	
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	195	97.4	200	2.36	
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 03, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 06/27/24 14:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/27/2024	Sampling Date:	06/27/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770438		

Sample ID: SW01 0-4 (H243864-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2024	ND	2.12	106	2.00	9.13	
Toluene*	<0.050	0.050	07/02/2024	ND	2.30	115	2.00	11.2	
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.43	121	2.00	11.5	
Total Xylenes*	<0.150	0.150	07/02/2024	ND	7.30	122	6.00	12.3	
Total BTEX	<0.300	0.300	07/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/02/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	184	92.1	200	2.62	
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	174	87.0	200	3.85	
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/27/2024	Sampling Date:	06/27/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770438		

Sample ID: FS08 4 (H243864-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2024	ND	2.12	106	2.00	9.13	
Toluene*	<0.050	0.050	07/02/2024	ND	2.30	115	2.00	11.2	
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.43	121	2.00	11.5	
Total Xylenes*	<0.150	0.150	07/02/2024	ND	7.30	122	6.00	12.3	
Total BTEX	<0.300	0.300	07/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1020	16.0	07/02/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	184	92.1	200	2.62	
DRO >C10-C28*	62.1	10.0	07/02/2024	ND	174	87.0	200	3.85	
EXT DRO >C28-C36	66.5	10.0	07/02/2024	ND					

Surrogate: 1-Chlorooctane 98.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/27/2024	Sampling Date:	06/27/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770438		

Sample ID: FS09 4 (H243864-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2024	ND	2.12	106	2.00	9.13		
Toluene*	<0.050	0.050	07/02/2024	ND	2.30	115	2.00	11.2		
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.43	121	2.00	11.5		
Total Xylenes*	<0.150	0.150	07/02/2024	ND	7.30	122	6.00	12.3		
Total BTEX	<0.300	0.300	07/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1040	16.0	07/02/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	184	92.1	200	2.62		
DRO >C10-C28*	88.6	10.0	07/02/2024	ND	174	87.0	200	3.85		
EXT DRO >C28-C36	97.1	10.0	07/02/2024	ND						

Surrogate: 1-Chlorooctane 102 % 48.2-134

Surrogate: 1-Chlorooctadecane 101 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/27/2024	Sampling Date:	06/27/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770438		

Sample ID: FS11 4 (H243864-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2024	ND	2.12	106	2.00	9.13		
Toluene*	<0.050	0.050	07/02/2024	ND	2.30	115	2.00	11.2		
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.43	121	2.00	11.5		
Total Xylenes*	<0.150	0.150	07/02/2024	ND	7.30	122	6.00	12.3		
Total BTEX	<0.300	0.300	07/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6800	16.0	07/02/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	202	101	200	2.54		
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	184	92.2	200	3.67		
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND						

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/27/2024	Sampling Date:	06/27/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770438		

Sample ID: SW06 0-4 (H243864-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/02/2024	ND	2.12	106	2.00	9.13		
Toluene*	<0.050	0.050	07/02/2024	ND	2.30	115	2.00	11.2		
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.43	121	2.00	11.5		
Total Xylenes*	<0.150	0.150	07/02/2024	ND	7.30	122	6.00	12.3		
Total BTEX	<0.300	0.300	07/02/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	07/02/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	202	101	200	2.54		
DRO >C10-C28*	20.1	10.0	07/02/2024	ND	184	92.2	200	3.67		
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND						

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/27/2024	Sampling Date:	06/27/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770438		

Sample ID: FS14 4 (H243864-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2024	ND	2.12	106	2.00	9.13	
Toluene*	<0.050	0.050	07/02/2024	ND	2.30	115	2.00	11.2	
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.43	121	2.00	11.5	
Total Xylenes*	<0.150	0.150	07/02/2024	ND	7.30	122	6.00	12.3	
Total BTEX	<0.300	0.300	07/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6500	16.0	07/02/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	202	101	200	2.54	
DRO >C10-C28*	34.7	10.0	07/02/2024	ND	184	92.2	200	3.67	
EXT DRO >C28-C36	12.3	10.0	07/02/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/27/2024	Sampling Date:	06/27/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770438		

Sample ID: FS15 4 (H243864-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2024	ND	2.12	106	2.00	9.13	
Toluene*	<0.050	0.050	07/02/2024	ND	2.30	115	2.00	11.2	
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.43	121	2.00	11.5	
Total Xylenes*	<0.150	0.150	07/02/2024	ND	7.30	122	6.00	12.3	
Total BTEX	<0.300	0.300	07/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6480	16.0	07/02/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	202	101	200	2.54	
DRO >C10-C28*	10.6	10.0	07/02/2024	ND	184	92.2	200	3.67	
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND					

Surrogate: 1-Chlorooctane 107 % 48.2-134

Surrogate: 1-Chlorooctadecane 108 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	06/27/2024	Sampling Date:	06/27/2024
Reported:	07/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770438		

Sample ID: FS16 4 (H243864-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/02/2024	ND	2.12	106	2.00	9.13	
Toluene*	<0.050	0.050	07/02/2024	ND	2.30	115	2.00	11.2	
Ethylbenzene*	<0.050	0.050	07/02/2024	ND	2.43	121	2.00	11.5	
Total Xylenes*	<0.150	0.150	07/02/2024	ND	7.30	122	6.00	12.3	
Total BTEX	<0.300	0.300	07/02/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13600	16.0	07/02/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/02/2024	ND	202	101	200	2.54	
DRO >C10-C28*	<10.0	10.0	07/02/2024	ND	184	92.2	200	3.67	
EXT DRO >C28-C36	<10.0	10.0	07/02/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 09, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA UNIT 177 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 07/02/24 15:04.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/02/2024	Sampling Date:	07/02/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 02 0-4 (H243979-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/05/2024	ND	2.02	101	2.00	1.09	
Toluene*	<0.050	0.050	07/05/2024	ND	1.97	98.5	2.00	1.41	
Ethylbenzene*	<0.050	0.050	07/05/2024	ND	2.07	103	2.00	1.30	
Total Xylenes*	<0.150	0.150	07/05/2024	ND	6.07	101	6.00	1.40	
Total BTEX	<0.300	0.300	07/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/05/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/05/2024	ND	198	98.9	200	2.84	
DRO >C10-C28*	<10.0	10.0	07/05/2024	ND	203	102	200	7.22	
EXT DRO >C28-C36	<10.0	10.0	07/05/2024	ND					

Surrogate: 1-Chlorooctane 79.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.9 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/02/2024	Sampling Date:	07/02/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 04 0-4 (H243979-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/05/2024	ND	2.02	101	2.00	1.09	
Toluene*	<0.050	0.050	07/05/2024	ND	1.97	98.5	2.00	1.41	
Ethylbenzene*	<0.050	0.050	07/05/2024	ND	2.07	103	2.00	1.30	
Total Xylenes*	<0.150	0.150	07/05/2024	ND	6.07	101	6.00	1.40	
Total BTEX	<0.300	0.300	07/05/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/05/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/05/2024	ND	198	98.9	200	2.84	
DRO >C10-C28*	<10.0	10.0	07/05/2024	ND	203	102	200	7.22	
EXT DRO >C28-C36	<10.0	10.0	07/05/2024	ND					

Surrogate: 1-Chlorooctane 96.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/02/2024	Sampling Date:	07/02/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 05 0-4 (H243979-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/06/2024	ND	2.02	101	2.00	1.09	
Toluene*	<0.050	0.050	07/06/2024	ND	1.97	98.5	2.00	1.41	
Ethylbenzene*	<0.050	0.050	07/06/2024	ND	2.07	103	2.00	1.30	
Total Xylenes*	<0.150	0.150	07/06/2024	ND	6.07	101	6.00	1.40	
Total BTEX	<0.300	0.300	07/06/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/05/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/05/2024	ND	198	98.9	200	2.84	
DRO >C10-C28*	<10.0	10.0	07/05/2024	ND	203	102	200	7.22	
EXT DRO >C28-C36	<10.0	10.0	07/05/2024	ND					

Surrogate: 1-Chlorooctane 97.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/02/2024	Sampling Date:	07/02/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: PH 07 6 (H243979-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/06/2024	ND	2.02	101	2.00	1.09		
Toluene*	<0.050	0.050	07/06/2024	ND	1.97	98.5	2.00	1.41		
Ethylbenzene*	<0.050	0.050	07/06/2024	ND	2.07	103	2.00	1.30		
Total Xylenes*	<0.150	0.150	07/06/2024	ND	6.07	101	6.00	1.40		
Total BTEX	<0.300	0.300	07/06/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5300	16.0	07/05/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/05/2024	ND	198	98.9	200	2.84		
DRO >C10-C28*	<10.0	10.0	07/05/2024	ND	203	102	200	7.22		
EXT DRO >C28-C36	<10.0	10.0	07/05/2024	ND						

Surrogate: 1-Chlorooctane 96.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/02/2024	Sampling Date:	07/02/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: PH 08 5 (H243979-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/06/2024	ND	2.02	101	2.00	1.09	
Toluene*	<0.050	0.050	07/06/2024	ND	1.97	98.5	2.00	1.41	
Ethylbenzene*	<0.050	0.050	07/06/2024	ND	2.07	103	2.00	1.30	
Total Xylenes*	<0.150	0.150	07/06/2024	ND	6.07	101	6.00	1.40	
Total BTEX	<0.300	0.300	07/06/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/05/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/05/2024	ND	198	98.9	200	2.84	
DRO >C10-C28*	<10.0	10.0	07/05/2024	ND	203	102	200	7.22	
EXT DRO >C28-C36	<10.0	10.0	07/05/2024	ND					

Surrogate: 1-Chlorooctane 95.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/02/2024	Sampling Date:	07/02/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: PH 08 7 (H243979-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/06/2024	ND	2.02	101	2.00	1.09	
Toluene*	<0.050	0.050	07/06/2024	ND	1.97	98.5	2.00	1.41	
Ethylbenzene*	<0.050	0.050	07/06/2024	ND	2.07	103	2.00	1.30	
Total Xylenes*	<0.150	0.150	07/06/2024	ND	6.07	101	6.00	1.40	
Total BTEX	<0.300	0.300	07/06/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/08/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/05/2024	ND	198	98.9	200	2.84	
DRO >C10-C28*	<10.0	10.0	07/05/2024	ND	203	102	200	7.22	
EXT DRO >C28-C36	<10.0	10.0	07/05/2024	ND					

Surrogate: 1-Chlorooctane 90.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.4 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 09, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA UNIT 177 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 07/03/24 13:37.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/03/2024	Sampling Date:	07/03/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057101	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 17 4 (H244010-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/03/2024	ND	1.93	96.6	2.00	2.50	
Toluene*	<0.050	0.050	07/03/2024	ND	1.92	96.2	2.00	3.92	
Ethylbenzene*	<0.050	0.050	07/03/2024	ND	2.03	101	2.00	4.33	
Total Xylenes*	<0.150	0.150	07/03/2024	ND	5.98	99.7	6.00	4.39	
Total BTEX	<0.300	0.300	07/03/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	07/05/2024	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2024	ND	205	103	200	0.472	
DRO >C10-C28*	<10.0	10.0	07/04/2024	ND	187	93.5	200	1.88	
EXT DRO >C28-C36	<10.0	10.0	07/04/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 141 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/03/2024	Sampling Date:	07/03/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057101	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 19 5 (H244010-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/03/2024	ND	1.93	96.6	2.00	2.50		
Toluene*	<0.050	0.050	07/03/2024	ND	1.92	96.2	2.00	3.92		
Ethylbenzene*	<0.050	0.050	07/03/2024	ND	2.03	101	2.00	4.33		
Total Xylenes*	<0.150	0.150	07/03/2024	ND	5.98	99.7	6.00	4.39		
Total BTEX	<0.300	0.300	07/03/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4240	16.0	07/05/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/04/2024	ND	205	103	200	0.472		
DRO >C10-C28*	<10.0	10.0	07/04/2024	ND	187	93.5	200	1.88		
EXT DRO >C28-C36	<10.0	10.0	07/04/2024	ND						

Surrogate: 1-Chlorooctane 117 % 48.2-134

Surrogate: 1-Chlorooctadecane 147 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/03/2024	Sampling Date:	07/03/2024
Reported:	07/09/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057101	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 10 5 (H244010-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/03/2024	ND	1.93	96.6	2.00	2.50		
Toluene*	<0.050	0.050	07/03/2024	ND	1.92	96.2	2.00	3.92		
Ethylbenzene*	<0.050	0.050	07/03/2024	ND	2.03	101	2.00	4.33		
Total Xylenes*	<0.150	0.150	07/03/2024	ND	5.98	99.7	6.00	4.39		
Total BTEX	<0.300	0.300	07/03/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3040	16.0	07/05/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/04/2024	ND	205	103	200	0.472		
DRO >C10-C28*	<10.0	10.0	07/04/2024	ND	187	93.5	200	1.88		
EXT DRO >C28-C36	<10.0	10.0	07/04/2024	ND						

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 140 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Ensolum, LLC
Project Manager: Aimee Cole
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: (720) 384-7365 Fax #:
Project #: 03E2057107 Project Owner:
Project Name: MCA Unit 177 Release
Project Location: 32.805544, -103.770938
Sampler Name: Chad Hamilton
BILL TO ANALYSIS REQUEST
P.O. #:
Company: Ensolum LLC
Attn: Aimee Cole
Address:
City:
State: Zip:
Phone #: 720-384-7365
Fax #:
FOR LAB USE ONLY
Lab I.D. Sample I.D. Depth (feet) (G)RAB OR (C)OMP. # CONTAINERS MATRIX PRESERV. SAMPLING
GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER: ACID/BASE: ICE / COOL OTHER: DATE TIME BTEX TPH CI-

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service.

Relinquished By: Date: 7/3/24 Time: 1337 Received By: Verbal Result: All Results are emailed. Please provide Email address: acole@ensolum.com mmarkise@ensolum.com/ chamilton@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other: Observed Temp. °C 4.1°C Corrected Temp. °C Sample Condition Cool Intact Yes No CHECKED BY: (Initials) AD Turnaround Time: Standard Rush 72hr. Bacteria (only) Cool Intact Observed Temp. °C Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 15, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA UNIT 177 RELEASE

Enclosed are the results of analyses for samples received by the laboratory on 07/09/24 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, prominent "C" at the beginning.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/09/2024	Sampling Date:	07/09/2024
Reported:	07/15/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 12 6 (H244078-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/11/2024	ND	1.94	97.0	2.00	2.89	
Toluene*	<0.050	0.050	07/11/2024	ND	1.97	98.6	2.00	2.63	
Ethylbenzene*	<0.050	0.050	07/11/2024	ND	2.12	106	2.00	3.04	
Total Xylenes*	<0.150	0.150	07/11/2024	ND	6.25	104	6.00	2.85	
Total BTEX	<0.300	0.300	07/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7520	16.0	07/10/2024	ND	432	108	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/10/2024	ND	189	94.4	200	2.23	
DRO >C10-C28*	259	10.0	07/10/2024	ND	198	99.2	200	3.57	
EXT DRO >C28-C36	165	10.0	07/10/2024	ND					

Surrogate: 1-Chlorooctane 91.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/09/2024	Sampling Date:	07/09/2024
Reported:	07/15/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 18 6 (H244078-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/11/2024	ND	1.94	97.0	2.00	2.89		
Toluene*	<0.050	0.050	07/11/2024	ND	1.97	98.6	2.00	2.63		
Ethylbenzene*	<0.050	0.050	07/11/2024	ND	2.12	106	2.00	3.04		
Total Xylenes*	<0.150	0.150	07/11/2024	ND	6.25	104	6.00	2.85		
Total BTEX	<0.300	0.300	07/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4800	16.0	07/10/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/10/2024	ND	189	94.4	200	2.23		
DRO >C10-C28*	<10.0	10.0	07/10/2024	ND	198	99.2	200	3.57		
EXT DRO >C28-C36	<10.0	10.0	07/10/2024	ND						

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 98.0 % 49.1-148

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/09/2024	Sampling Date:	07/09/2024
Reported:	07/15/2024	Sampling Type:	Soil
Project Name:	MCA UNIT 177 RELEASE	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 16 5.5 (H244078-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/11/2024	ND	1.94	97.0	2.00	2.89		
Toluene*	<0.050	0.050	07/11/2024	ND	1.97	98.6	2.00	2.63		
Ethylbenzene*	<0.050	0.050	07/11/2024	ND	2.12	106	2.00	3.04		
Total Xylenes*	<0.150	0.150	07/11/2024	ND	6.25	104	6.00	2.85		
Total BTEX	<0.300	0.300	07/11/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5200	16.0	07/10/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/10/2024	ND	189	94.4	200	2.23		
DRO >C10-C28*	<10.0	10.0	07/10/2024	ND	198	99.2	200	3.57		
EXT DRO >C28-C36	<10.0	10.0	07/10/2024	ND						

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



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July 16, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 07/10/24 14:21.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/10/2024	Sampling Date:	07/10/2024
Reported:	07/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.805544, -103.770938		

Sample ID: FS 20 7' (H244112-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/13/2024	ND	2.12	106	2.00	5.82		
Toluene*	<0.050	0.050	07/13/2024	ND	2.07	103	2.00	5.93		
Ethylbenzene*	<0.050	0.050	07/13/2024	ND	2.09	104	2.00	6.18		
Total Xylenes*	<0.150	0.150	07/13/2024	ND	6.17	103	6.00	6.59		
Total BTEX	<0.300	0.300	07/13/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4480	16.0	07/12/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/12/2024	ND	207	103	200	2.20		
DRO >C10-C28*	<10.0	10.0	07/12/2024	ND	209	104	200	1.44		
EXT DRO >C28-C36	<10.0	10.0	07/12/2024	ND						

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 137 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST																									
Project Manager: Aimee Cole		P.O. #:																											
Address: 3122 National Parks Hwy		Company:																											
City: Carlsbad State: NM Zip: 88220		Attn: <i>Aimee Cole</i>																											
Phone #: (720) 384-7365 Fax #:		Address:																											
Project #: <i>03E2057107</i> Project Owner:		City:																											
Project Name: <i>MCA 177</i>		State: Zip:																											
Project Location: <i>32,805544,-105.770938</i>		Phone #:																											
Sampler Name: <i>Chad Hamilton</i>		Fax #:																											
FOR LAB USE ONLY	Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.	SAMPLING																	
	<i>H244112</i>	<i>F520</i>	<i>7</i>	<i>C</i>	<i>1</i>	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	<i>BTEX</i>	<i>TPH</i>	<i>CI-</i>										
								<i>X</i>					<i>X</i>		<i>7/10/24</i>	<i>0931</i>	<i>X</i>	<i>X</i>	<i>X</i>										

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Relinquished By:	Date: <i>7/10/24</i>	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Time: <i>1421</i>	Received By:	All Results are emailed. Please provide Email address: <i>acoic@ensolum.com</i> <i>msarkise@ensolum.com / chilton@ensolum.com</i>
Delivered By: (Circle One)	Observed Temp. °C <i>3.8</i>	Sample Condition	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Bacteria (only) Sample Condition
			Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
			Observed Temp. °C
			Corrected Temp. °C
			Thermometer ID #113 <i>#140</i>
			Correction Factor <i>0.5°C</i> <i>7/10/24</i>

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 22, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 07/16/24 11:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/16/2024	Sampling Date:	07/16/2024
Reported:	07/22/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.805544, -103.770938		

Sample ID: FS 21 8' (H244230-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/17/2024	ND	1.97	98.5	2.00	4.05		
Toluene*	<0.050	0.050	07/17/2024	ND	2.14	107	2.00	3.45		
Ethylbenzene*	<0.050	0.050	07/17/2024	ND	2.20	110	2.00	3.02		
Total Xylenes*	<0.150	0.150	07/17/2024	ND	6.83	114	6.00	2.91		
Total BTEX	<0.300	0.300	07/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	720	16.0	07/16/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/17/2024	ND	206	103	200	5.27		
DRO >C10-C28*	<10.0	10.0	07/17/2024	ND	179	89.4	200	7.62		
EXT DRO >C28-C36	<10.0	10.0	07/17/2024	ND						

Surrogate: 1-Chlorooctane 109 % 48.2-134

Surrogate: 1-Chlorooctadecane 135 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST											
Project Manager: Aimee Cole		P.O. #:													
Address: 3122 National Parks Hwy		Company: <i>ENSOLUM, LLC</i>													
City: Carlsbad State: NM Zip: 88220		Attn: <i>Aimee Cole</i>													
Phone #: (720) 384-7365 Fax #:		Address:													
Project #: <i>03E2057107</i> Project Owner:		City:													
Project Name: <i>MCA 177</i>		State: Zip:													
Project Location: <i>32.805544, -103.770938</i>		Phone #:													
Sampler Name: <i>Mario Sarkis</i>		Fax #:													

FOR LAB USE ONLY		Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX						PRESERV.		SAMPLING		DATE	TIME	BTEX	TPH	Chlorides
Lab I.D.	Sample I.D.			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:						
<i>H244230</i>	<i>1 f521</i>	<i>8#</i>	<i>C 1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>				<i>7/16/24</i>	<i>0848</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<i>APS</i>																		

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>[Signature]</i>	Date: <i>7/16/24</i>	Received By: <i>[Signature]</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Time: <i>1:15</i>			All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS: <i>alcole@ensolum.com / MSarkis@ensolum.com</i>
Time:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C <i>4.5</i>	Sample Condition <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Intact <input type="checkbox"/> No <input type="checkbox"/> No	CHECKED BY: (Initials) <i>[Signature]</i>
	Corrected Temp. °C		Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush
			Bacteria (only) Sample Condition <input type="checkbox"/> Cool <input type="checkbox"/> Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C
			Thermometer ID <i>#113</i> <i>#140</i> Correction Factor <i>-0.5°C</i> <i>7/16/24</i>

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 23, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 07/17/24 16:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS22 4' (H244286-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2024	ND	2.04	102	2.00	3.62	
Toluene*	<0.050	0.050	07/18/2024	ND	2.20	110	2.00	4.29	
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	2.25	112	2.00	4.09	
Total Xylenes*	<0.150	0.150	07/18/2024	ND	6.93	115	6.00	3.07	
Total BTEX	<0.300	0.300	07/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4320	16.0	07/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	184	92.1	200	0.560	
DRO >C10-C28*	<10.0	10.0	07/18/2024	ND	180	90.0	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	07/18/2024	ND					

Surrogate: 1-Chlorooctane 99.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.9 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS23 4' (H244286-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2024	ND	2.04	102	2.00	3.62		
Toluene*	<0.050	0.050	07/18/2024	ND	2.20	110	2.00	4.29		
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	2.25	112	2.00	4.09		
Total Xylenes*	<0.150	0.150	07/18/2024	ND	6.93	115	6.00	3.07		
Total BTEX	<0.300	0.300	07/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2040	16.0	07/19/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04		
DRO >C10-C28*	<10.0	10.0	07/18/2024	ND	196	97.9	200	9.81		
EXT DRO >C28-C36	<10.0	10.0	07/18/2024	ND						

Surrogate: 1-Chlorooctane 89.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.9 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS24 4' (H244286-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2024	ND	2.04	102	2.00	3.62	
Toluene*	<0.050	0.050	07/18/2024	ND	2.20	110	2.00	4.29	
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	2.25	112	2.00	4.09	
Total Xylenes*	<0.150	0.150	07/18/2024	ND	6.93	115	6.00	3.07	
Total BTEX	<0.300	0.300	07/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3440	16.0	07/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04	
DRO >C10-C28*	<10.0	10.0	07/18/2024	ND	196	97.9	200	9.81	
EXT DRO >C28-C36	<10.0	10.0	07/18/2024	ND					

Surrogate: 1-Chlorooctane 94.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.4 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS25 4' (H244286-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2024	ND	1.92	96.1	2.00	3.12		
Toluene*	<0.050	0.050	07/18/2024	ND	1.91	95.7	2.00	3.04		
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	1.94	97.2	2.00	2.95		
Total Xylenes*	<0.150	0.150	07/18/2024	ND	5.73	95.5	6.00	3.01		
Total BTEX	<0.300	0.300	07/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1470	16.0	07/19/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04		
DRO >C10-C28*	<10.0	10.0	07/18/2024	ND	196	97.9	200	9.81		
EXT DRO >C28-C36	<10.0	10.0	07/18/2024	ND						

Surrogate: 1-Chlorooctane 93.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW09 0-4' (H244286-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2024	ND	1.92	96.1	2.00	3.12	
Toluene*	<0.050	0.050	07/18/2024	ND	1.91	95.7	2.00	3.04	
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	1.94	97.2	2.00	2.95	
Total Xylenes*	<0.150	0.150	07/18/2024	ND	5.73	95.5	6.00	3.01	
Total BTEX	<0.300	0.300	07/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04	
DRO >C10-C28*	<10.0	10.0	07/18/2024	ND	196	97.9	200	9.81	
EXT DRO >C28-C36	<10.0	10.0	07/18/2024	ND					

Surrogate: 1-Chlorooctane 93.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.5 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS27 4' (H244286-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2024	ND	1.92	96.1	2.00	3.12		
Toluene*	<0.050	0.050	07/18/2024	ND	1.91	95.7	2.00	3.04		
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	1.94	97.2	2.00	2.95		
Total Xylenes*	<0.150	0.150	07/18/2024	ND	5.73	95.5	6.00	3.01		
Total BTEX	<0.300	0.300	07/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2160	16.0	07/19/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04		
DRO >C10-C28*	10.4	10.0	07/18/2024	ND	196	97.9	200	9.81		
EXT DRO >C28-C36	16.2	10.0	07/18/2024	ND						

Surrogate: 1-Chlorooctane 94.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.3 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS28 4' (H244286-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2024	ND	1.92	96.1	2.00	3.12		
Toluene*	<0.050	0.050	07/18/2024	ND	1.91	95.7	2.00	3.04		
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	1.94	97.2	2.00	2.95		
Total Xylenes*	<0.150	0.150	07/18/2024	ND	5.73	95.5	6.00	3.01		
Total BTEX	<0.300	0.300	07/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2020	16.0	07/19/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04		
DRO >C10-C28*	<10.0	10.0	07/18/2024	ND	196	97.9	200	9.81		
EXT DRO >C28-C36	<10.0	10.0	07/18/2024	ND						

Surrogate: 1-Chlorooctane 91.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.5 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS29 4' (H244286-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/18/2024	ND	1.92	96.1	2.00	3.12		
Toluene*	<0.050	0.050	07/18/2024	ND	1.91	95.7	2.00	3.04		
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	1.94	97.2	2.00	2.95		
Total Xylenes*	<0.150	0.150	07/18/2024	ND	5.73	95.5	6.00	3.01		
Total BTEX	<0.300	0.300	07/18/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	07/19/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04		
DRO >C10-C28*	<10.0	10.0	07/18/2024	ND	196	97.9	200	9.81		
EXT DRO >C28-C36	<10.0	10.0	07/18/2024	ND						

Surrogate: 1-Chlorooctane 88.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.8 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS30 4' (H244286-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2024	ND	1.92	96.1	2.00	3.12	
Toluene*	<0.050	0.050	07/18/2024	ND	1.91	95.7	2.00	3.04	
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	1.94	97.2	2.00	2.95	
Total Xylenes*	<0.150	0.150	07/18/2024	ND	5.73	95.5	6.00	3.01	
Total BTEX	<0.300	0.300	07/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1220	16.0	07/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04	
DRO >C10-C28*	40.6	10.0	07/18/2024	ND	196	97.9	200	9.81	
EXT DRO >C28-C36	17.4	10.0	07/18/2024	ND					

Surrogate: 1-Chlorooctane 96.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.7 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS31 4' (H244286-10)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2024	ND	1.92	96.1	2.00	3.12	
Toluene*	<0.050	0.050	07/18/2024	ND	1.91	95.7	2.00	3.04	
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	1.94	97.2	2.00	2.95	
Total Xylenes*	<0.150	0.150	07/18/2024	ND	5.73	95.5	6.00	3.01	
Total BTEX	<0.300	0.300	07/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	07/18/2024	ND	448	112	400	3.64	QM-07

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04	
DRO >C10-C28*	29.8	10.0	07/18/2024	ND	196	97.9	200	9.81	
EXT DRO >C28-C36	19.7	10.0	07/18/2024	ND					

Surrogate: 1-Chlorooctane 91.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.2 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW11 0-4' (H244286-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/18/2024	ND	1.92	96.1	2.00	3.12	
Toluene*	<0.050	0.050	07/18/2024	ND	1.91	95.7	2.00	3.04	
Ethylbenzene*	<0.050	0.050	07/18/2024	ND	1.94	97.2	2.00	2.95	
Total Xylenes*	<0.150	0.150	07/18/2024	ND	5.73	95.5	6.00	3.01	
Total BTEX	<0.300	0.300	07/18/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	07/18/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04	
DRO >C10-C28*	587	10.0	07/18/2024	ND	196	97.9	200	9.81	
EXT DRO >C28-C36	268	10.0	07/18/2024	ND					

Surrogate: 1-Chlorooctane 85.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.3 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/17/2024	Sampling Date:	07/17/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW12 0-4' (H244286-12)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/19/2024	ND	1.92	96.1	2.00	3.12	
Toluene*	<0.050	0.050	07/19/2024	ND	1.91	95.7	2.00	3.04	
Ethylbenzene*	<0.050	0.050	07/19/2024	ND	1.94	97.2	2.00	2.95	
Total Xylenes*	<0.150	0.150	07/19/2024	ND	5.73	95.5	6.00	3.01	
Total BTEX	<0.300	0.300	07/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/18/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/18/2024	ND	196	98.1	200	6.04	
DRO >C10-C28*	2930	10.0	07/18/2024	ND	196	97.9	200	9.81	
EXT DRO >C28-C36	1170	10.0	07/18/2024	ND					

Surrogate: 1-Chlorooctane 89.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 23, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 07/18/24 14:47.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/18/2024	Sampling Date:	07/18/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 34 4 (H244328-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2024	ND	2.12	106	2.00	4.32	
Toluene*	<0.050	0.050	07/20/2024	ND	2.26	113	2.00	2.65	
Ethylbenzene*	<0.050	0.050	07/20/2024	ND	2.30	115	2.00	1.09	
Total Xylenes*	<0.150	0.150	07/20/2024	ND	7.12	119	6.00	0.922	
Total BTEX	<0.300	0.300	07/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8720	16.0	07/22/2024	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/20/2024	ND	225	112	200	8.85	
DRO >C10-C28*	<10.0	10.0	07/20/2024	ND	209	105	200	13.5	
EXT DRO >C28-C36	<10.0	10.0	07/20/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/18/2024	Sampling Date:	07/18/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 35 4 (H244328-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/20/2024	ND	2.12	106	2.00	4.32		
Toluene*	<0.050	0.050	07/20/2024	ND	2.26	113	2.00	2.65		
Ethylbenzene*	<0.050	0.050	07/20/2024	ND	2.30	115	2.00	1.09		
Total Xylenes*	<0.150	0.150	07/20/2024	ND	7.12	119	6.00	0.922		
Total BTEX	<0.300	0.300	07/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4640	16.0	07/22/2024	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/20/2024	ND	225	112	200	8.85		
DRO >C10-C28*	<10.0	10.0	07/20/2024	ND	209	105	200	13.5		
EXT DRO >C28-C36	<10.0	10.0	07/20/2024	ND						

Surrogate: 1-Chlorooctane 118 % 48.2-134

Surrogate: 1-Chlorooctadecane 125 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/18/2024	Sampling Date:	07/18/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 36 4 (H244328-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/20/2024	ND	2.12	106	2.00	4.32		
Toluene*	<0.050	0.050	07/20/2024	ND	2.26	113	2.00	2.65		
Ethylbenzene*	<0.050	0.050	07/20/2024	ND	2.30	115	2.00	1.09		
Total Xylenes*	<0.150	0.150	07/20/2024	ND	7.12	119	6.00	0.922		
Total BTEX	<0.300	0.300	07/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2600	16.0	07/22/2024	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/19/2024	ND	226	113	200	3.45		
DRO >C10-C28*	<10.0	10.0	07/19/2024	ND	203	102	200	7.48		
EXT DRO >C28-C36	<10.0	10.0	07/19/2024	ND						

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/18/2024	Sampling Date:	07/18/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 37 4 (H244328-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/20/2024	ND	2.12	106	2.00	4.32		
Toluene*	<0.050	0.050	07/20/2024	ND	2.26	113	2.00	2.65		
Ethylbenzene*	<0.050	0.050	07/20/2024	ND	2.30	115	2.00	1.09		
Total Xylenes*	<0.150	0.150	07/20/2024	ND	7.12	119	6.00	0.922		
Total BTEX	<0.300	0.300	07/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	576	16.0	07/22/2024	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/19/2024	ND	226	113	200	3.45		
DRO >C10-C28*	<10.0	10.0	07/19/2024	ND	203	102	200	7.48		
EXT DRO >C28-C36	<10.0	10.0	07/19/2024	ND						

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 131 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/18/2024	Sampling Date:	07/18/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 13 0-4 (H244328-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/20/2024	ND	2.12	106	2.00	4.32	
Toluene*	<0.050	0.050	07/20/2024	ND	2.26	113	2.00	2.65	
Ethylbenzene*	<0.050	0.050	07/20/2024	ND	2.30	115	2.00	1.09	
Total Xylenes*	<0.150	0.150	07/20/2024	ND	7.12	119	6.00	0.922	
Total BTEX	<0.300	0.300	07/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	07/22/2024	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/19/2024	ND	226	113	200	3.45	
DRO >C10-C28*	<10.0	10.0	07/19/2024	ND	203	102	200	7.48	
EXT DRO >C28-C36	<10.0	10.0	07/19/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/18/2024	Sampling Date:	07/18/2024
Reported:	07/23/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 14 0-4 (H244328-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/20/2024	ND	2.12	106	2.00	4.32		
Toluene*	<0.050	0.050	07/20/2024	ND	2.26	113	2.00	2.65		
Ethylbenzene*	<0.050	0.050	07/20/2024	ND	2.30	115	2.00	1.09		
Total Xylenes*	<0.150	0.150	07/20/2024	ND	7.12	119	6.00	0.922		
Total BTEX	<0.300	0.300	07/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	07/22/2024	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/19/2024	ND	226	113	200	3.45		
DRO >C10-C28*	<10.0	10.0	07/19/2024	ND	203	102	200	7.48		
EXT DRO >C28-C36	<10.0	10.0	07/19/2024	ND						

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 25, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 07/22/24 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 38 4' (H244353-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74	
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 127 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4760	16.0	07/23/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55	
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 124 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 39 4 (H244353-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74		
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 127 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5720	16.0	07/23/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03		
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55		
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND						

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 40 4' (H244353-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74		
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2720	16.0	07/23/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03		
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55		
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND						

Surrogate: 1-Chlorooctane 129 % 48.2-134

Surrogate: 1-Chlorooctadecane 136 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 41 4' (H244353-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74		
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 121 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4120	16.0	07/23/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03		
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55		
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND						

Surrogate: 1-Chlorooctane 121 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 42 4' (H244353-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74	
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 128 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4440	16.0	07/23/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55	
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND					

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 134 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 43 4' (H244353-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74		
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 132 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1380	16.0	07/23/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03		
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55		
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND						

Surrogate: 1-Chlorooctane 134 % 48.2-134

Surrogate: 1-Chlorooctadecane 144 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 44 4' (H244353-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74		
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2840	16.0	07/23/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03		
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55		
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND						

Surrogate: 1-Chlorooctane 111 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 45 4' (H244353-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74		
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23		
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88		
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65		
Total BTEX	<0.300	0.300	07/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1630	16.0	07/23/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03		
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55		
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND						

Surrogate: 1-Chlorooctane 126 % 48.2-134

Surrogate: 1-Chlorooctadecane 130 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 46 4' (H244353-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74	
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 133 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	07/23/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55	
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND					

Surrogate: 1-Chlorooctane 131 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 18 0-4' (H244353-10)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74	
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 127 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/23/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55	
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 08 0-4' (H244353-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74	
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	07/23/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55	
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND					

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	07/22/2024	Sampling Date:	07/22/2024
Reported:	07/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 02 4-8' (H244353-12)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/23/2024	ND	2.19	109	2.00	1.74	
Toluene*	<0.050	0.050	07/23/2024	ND	2.60	130	2.00	4.23	
Ethylbenzene*	<0.050	0.050	07/23/2024	ND	2.62	131	2.00	4.88	
Total Xylenes*	<0.150	0.150	07/23/2024	ND	8.14	136	6.00	4.65	
Total BTEX	<0.300	0.300	07/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 127 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4080	16.0	07/23/2024	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/23/2024	ND	212	106	200	2.03	
DRO >C10-C28*	<10.0	10.0	07/23/2024	ND	199	99.6	200	1.55	
EXT DRO >C28-C36	<10.0	10.0	07/23/2024	ND					

Surrogate: 1-Chlorooctane 122 % 48.2-134

Surrogate: 1-Chlorooctadecane 127 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
BS1 Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST															
Project Manager: Aimee Cole				P.O. #:																			
Address: 3122 National Parks Hwy				Company: <i>ENSOLUM, LLC</i>																			
City: Carlsbad		State: NM		Zip: 88220		Attn: <i>AIMEE COLE</i>																	
Phone #: (720) 384-7365		Fax #:		Address:																			
Project #: <i>03E2057107</i>		Project Owner:		City:																			
Project Name: <i>MCA 177</i>				State:				Zip:															
Project Location: <i>32.805544, -103.770938</i>				Phone #:																			
Sampler Name: <i>Mario Sarkis</i>				Fax #:																			
FOR LAB USE ONLY				MATRIX				PRESERV.				SAMPLING											
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE:	ICE / COOL	OTHER	DATE	TIME									
<i>H2111353</i>																							
<i>11</i>	<i>SW08</i>	<i>0-4</i>	<i>C 1</i>			<i>✓</i>					<i>✓</i>		<i>7/22/24</i>	<i>1147</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>						
<i>12</i>	<i>SW02</i>	<i>4-8</i>	<i>C 1</i>			<i>✓</i>					<i>✓</i>		<i>7/22/24</i>	<i>1224</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>						

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Relinquished By: <i>[Signature]</i>	Date: <i>7/22/24</i>	Received By: <i>[Signature]</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:		
	Time: <i>1400</i>		All Results are emailed. Please provide Email address:			
Relinquished By:	Date:	Received By:	<i>acole@ensolum.com / msarkis@ensolum.com</i>			
	Time:		REMARKS:			
Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY: (Initials)	Turnaround Time:	Standard <input checked="" type="checkbox"/> <input type="checkbox"/>	Bacteria (only) Sample Condition
Sampler - UPS - Bus - Other:	<i>2.6</i>	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	<i>AD</i>	<i>AD 7 22 24</i>	<i>Rush</i>	Cool Intact Observed Temp. °C
	Corrected Temp. °C	<input type="checkbox"/> No <input type="checkbox"/> No		Thermometer ID #113	<i># 140</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
				Correction Factor <i>-0.5°C</i>		<input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 09, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/05/24 15:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/05/2024	Sampling Date:	08/05/2024
Reported:	08/09/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 15 0-4 (H244689-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/06/2024	ND	2.10	105	2.00	0.768	
Toluene*	<0.050	0.050	08/06/2024	ND	2.29	114	2.00	1.97	
Ethylbenzene*	<0.050	0.050	08/06/2024	ND	2.39	120	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/06/2024	ND	7.29	121	6.00	0.252	
Total BTEX	<0.300	0.300	08/06/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	08/07/2024	ND	432	108	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/06/2024	ND	206	103	200	1.26	
DRO >C10-C28*	<10.0	10.0	08/06/2024	ND	195	97.5	200	0.315	
EXT DRO >C28-C36	<10.0	10.0	08/06/2024	ND					

Surrogate: 1-Chlorooctane 74.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/05/2024	Sampling Date:	08/05/2024
Reported:	08/09/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 07 0-4 (H244689-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/06/2024	ND	2.10	105	2.00	0.768		
Toluene*	<0.050	0.050	08/06/2024	ND	2.29	114	2.00	1.97		
Ethylbenzene*	<0.050	0.050	08/06/2024	ND	2.39	120	2.00	1.08		
Total Xylenes*	<0.150	0.150	08/06/2024	ND	7.29	121	6.00	0.252		
Total BTEX	<0.300	0.300	08/06/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/07/2024	ND	432	108	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/06/2024	ND	206	103	200	1.26		
DRO >C10-C28*	<10.0	10.0	08/06/2024	ND	195	97.5	200	0.315		
EXT DRO >C28-C36	<10.0	10.0	08/06/2024	ND						

Surrogate: 1-Chlorooctane 77.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/05/2024	Sampling Date:	08/05/2024
Reported:	08/09/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 12 0-4 (H244689-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/06/2024	ND	2.10	105	2.00	0.768	
Toluene*	<0.050	0.050	08/06/2024	ND	2.29	114	2.00	1.97	
Ethylbenzene*	<0.050	0.050	08/06/2024	ND	2.39	120	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/06/2024	ND	7.29	121	6.00	0.252	
Total BTEX	<0.300	0.300	08/06/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/07/2024	ND	432	108	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/06/2024	ND	206	103	200	1.26	
DRO >C10-C28*	10.1	10.0	08/06/2024	ND	195	97.5	200	0.315	
EXT DRO >C28-C36	<10.0	10.0	08/06/2024	ND					

Surrogate: 1-Chlorooctane 79.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 94.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/05/2024	Sampling Date:	08/05/2024
Reported:	08/09/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 16 0-4 (H244689-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/06/2024	ND	2.10	105	2.00	0.768	
Toluene*	<0.050	0.050	08/06/2024	ND	2.29	114	2.00	1.97	
Ethylbenzene*	<0.050	0.050	08/06/2024	ND	2.39	120	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/06/2024	ND	7.29	121	6.00	0.252	
Total BTEX	<0.300	0.300	08/06/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	08/07/2024	ND	432	108	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/06/2024	ND	206	103	200	1.26	
DRO >C10-C28*	<10.0	10.0	08/06/2024	ND	195	97.5	200	0.315	
EXT DRO >C28-C36	<10.0	10.0	08/06/2024	ND					

Surrogate: 1-Chlorooctane 83.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 96.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																				
Project Manager: Aimee Cole				P.O. #:																								
Address: 3122 National Parks Hwy				Company: ENSOLUM, LLC																								
City: Carlsbad		State: NM		Zip: 88220		Attn: Aimee Cole																						
Phone #: (720) 384-7365		Fax #:		Address:																								
Project #: 03E2057107		Project Owner:		City:																								
Project Name: MCA 177				State: Zip:																								
Project Location: 32.805544, -107.770938				Phone #:																								
Sampler Name: Mario Salkis				Fax #:																								
FOR LAB USE ONLY																												
Lab I.D.	Sample I.D.	Depth (feet)	(G/RAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.		SAMPLING																	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:													DATE	TIME		
HZLU1089	SW15	0-4	C 1			✓				✓		8/5/24	1228	✓	✓	✓	BTEX TPH Chlorides											
1	SW07	0-4	C 1			✓				✓		↓	1205	✓	✓	✓												
2	SW12	0-4	C 1			✓				✓		↓	1212	✓	✓	✓												
3	SW16	0-4	C 1			✓				✓		↓	1230	✓	✓	✓												
4																												

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Relinquished By:		Date: 8/5/24		Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:							
Time: 1:52						All Results are emailed. Please provide Email address:									
Relinquished By:		Date:		Received By:		a.cole@ensolum.com / m.salkis@ensolum.com									
Time:						REMARKS:									
Delivered By: (Circle One)		Observed Temp. °C		Sample Condition		CHECKED BY: (Initials)		Turnaround Time:		Standard		Bacteria (only)		Sample Condition	
Sampler - UPS - Bus - Other:		4.9°C		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		AP		8-5-24 4:15		Rush <input checked="" type="checkbox"/>		Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Observed Temp. °C	
		Corrected Temp. °C						Thermometer ID #113							
		4.3°C						Correction Factor -0.5°C		-0.6°C				Corrected Temp. °C	

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsonm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 12, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/06/24 15:22.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/06/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 47 4' (H244728-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2024	ND	1.99	99.7	2.00	5.06	
Toluene*	<0.050	0.050	08/07/2024	ND	1.98	98.8	2.00	4.21	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.03	101	2.00	3.89	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	5.97	99.5	6.00	3.81	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1410	16.0	08/08/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/07/2024	ND	191	95.7	200	1.34	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	189	94.5	200	1.18	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 88.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/06/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 48 4' (H244728-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/07/2024	ND	1.99	99.7	2.00	5.06		
Toluene*	<0.050	0.050	08/07/2024	ND	1.98	98.8	2.00	4.21		
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.03	101	2.00	3.89		
Total Xylenes*	<0.150	0.150	08/07/2024	ND	5.97	99.5	6.00	3.81		
Total BTEX	<0.300	0.300	08/07/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2640	16.0	08/08/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/07/2024	ND	191	95.7	200	1.34		
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	189	94.5	200	1.18		
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND						

Surrogate: 1-Chlorooctane 85.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/06/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 49 4' (H244728-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2024	ND	1.99	99.7	2.00	5.06	
Toluene*	<0.050	0.050	08/07/2024	ND	1.98	98.8	2.00	4.21	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.03	101	2.00	3.89	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	5.97	99.5	6.00	3.81	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	08/08/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/07/2024	ND	191	95.7	200	1.34	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	189	94.5	200	1.18	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 85.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 83.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/06/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 50 4' (H244728-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/07/2024	ND	1.99	99.7	2.00	5.06	
Toluene*	<0.050	0.050	08/07/2024	ND	1.98	98.8	2.00	4.21	
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.03	101	2.00	3.89	
Total Xylenes*	<0.150	0.150	08/07/2024	ND	5.97	99.5	6.00	3.81	
Total BTEX	<0.300	0.300	08/07/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	08/08/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/07/2024	ND	191	95.7	200	1.34	
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	189	94.5	200	1.18	
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND					

Surrogate: 1-Chlorooctane 80.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 77.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/06/2024	Sampling Date:	08/06/2024
Reported:	08/12/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 51 4' (H244728-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/07/2024	ND	1.99	99.7	2.00	5.06		
Toluene*	<0.050	0.050	08/07/2024	ND	1.98	98.8	2.00	4.21		
Ethylbenzene*	<0.050	0.050	08/07/2024	ND	2.03	101	2.00	3.89		
Total Xylenes*	<0.150	0.150	08/07/2024	ND	5.97	99.5	6.00	3.81		
Total BTEX	<0.300	0.300	08/07/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	08/08/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/07/2024	ND	191	95.7	200	1.34		
DRO >C10-C28*	<10.0	10.0	08/07/2024	ND	189	94.5	200	1.18		
EXT DRO >C28-C36	<10.0	10.0	08/07/2024	ND						

Surrogate: 1-Chlorooctane 83.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																			
Project Manager: Aimee Cole				P.O. #:																							
Address: 3122 National Parks Hwy				Company: <i>ENSOLUM, LLC</i>																							
City: Carlsbad		State: NM		Zip: 88220		Attn: <i>Aimee Cole</i>																					
Phone #: (720) 384-7365		Fax #:		Address:																							
Project #: <i>03E2057107</i>		Project Owner:		City:																							
Project Name: <i>MCA 177</i>		State:		Zip:		Phone #:																					
Project Location: <i>32.805544, -103.770938</i>		Fax #:																									
Sampler Name: <i>Maria Sarkis</i>																											
FOR LAB USE ONLY																											
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING															
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME												
<i>WZ001728</i>																											
<i>1</i>	<i>FS47</i>	<i>4</i>	<i>C</i>	<i>1</i>			<i>✓</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>8/6/24</i>	<i>1000</i>	<i>BTEX</i>											
<i>2</i>	<i>FS48</i>	<i>4</i>	<i>C</i>	<i>1</i>			<i>✓</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>		<i>1003</i>	<i>TPH</i>											
<i>3</i>	<i>FS49</i>	<i>4</i>	<i>C</i>	<i>1</i>			<i>✓</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>		<i>1008</i>	<i>Chlorides</i>											
<i>4</i>	<i>FS50</i>	<i>4</i>	<i>C</i>	<i>1</i>			<i>✓</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>		<i>1016</i>												
<i>5</i>	<i>FS51</i>	<i>4</i>	<i>C</i>	<i>1</i>			<i>✓</i>				<i>✓</i>	<i>✓</i>	<i>✓</i>		<i>1012</i>												

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Relinquished By:	Date: <i>8/6/24</i>	Received By: <i>A. Dawood</i>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:		
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address:			
	Time: <i>1:52</i>		<i>alok@ensolum.com / MSarkis@ensolum.com</i>			
			REMARKS:			
Delivered By: (Circle One)	Observed Temp. °C	Sample Condition	CHECKED BY: (Initials)	Turnaround Time:	Standard <input checked="" type="checkbox"/> <input type="checkbox"/>	Bacteria (only) <input type="checkbox"/>
Sampler - UPS - Bus - Other:	<i>4.0°C</i>	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	<i>AD</i>	<i>AD 8/24 1:40</i>	<i>Rush</i>	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
	Corrected Temp. °C	<input type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID <i>#413</i>		Observed Temp. °C
	<i>4.0°C</i>	<input type="checkbox"/> No <input type="checkbox"/> No		Correction Factor <i>0.5°C - 0.0°C</i>		Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 16, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/13/24 14:09.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: SW 11 0-4' (H244886-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2024	ND	2.08	104	2.00	12.6	
Toluene*	<0.050	0.050	08/14/2024	ND	2.03	102	2.00	12.5	
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.14	107	2.00	12.7	
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.31	105	6.00	12.7	
Total BTEX	<0.300	0.300	08/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/14/2024	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 120 % 48.2-134

Surrogate: 1-Chlorooctadecane 142 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: SW 17 0-6' (H244886-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/14/2024	ND	2.08	104	2.00	12.6		
Toluene*	<0.050	0.050	08/14/2024	ND	2.03	102	2.00	12.5		
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.31	105	6.00	12.7		
Total BTEX	<0.300	0.300	08/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	08/14/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88		
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445		
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND						

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: SW 19 0-6' (H244886-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/14/2024	ND	2.08	104	2.00	12.6		
Toluene*	<0.050	0.050	08/14/2024	ND	2.03	102	2.00	12.5		
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.14	107	2.00	12.7		
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.31	105	6.00	12.7		
Total BTEX	<0.300	0.300	08/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	08/14/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88		
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445		
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND						

Surrogate: 1-Chlorooctane 112 % 48.2-134

Surrogate: 1-Chlorooctadecane 132 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 57 4' (H244886-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2024	ND	2.08	104	2.00	12.6	
Toluene*	<0.050	0.050	08/15/2024	ND	2.03	102	2.00	12.5	
Ethylbenzene*	<0.050	0.050	08/15/2024	ND	2.14	107	2.00	12.7	
Total Xylenes*	<0.150	0.150	08/15/2024	ND	6.31	105	6.00	12.7	
Total BTEX	<0.300	0.300	08/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1380	16.0	08/14/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	65.4	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	45.9	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 58 4' (H244886-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2024	ND	2.08	104	2.00	12.6	
Toluene*	<0.050	0.050	08/15/2024	ND	2.03	102	2.00	12.5	
Ethylbenzene*	<0.050	0.050	08/15/2024	ND	2.14	107	2.00	12.7	
Total Xylenes*	<0.150	0.150	08/15/2024	ND	6.31	105	6.00	12.7	
Total BTEX	<0.300	0.300	08/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	08/14/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 59 4' (H244886-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2024	ND	2.08	104	2.00	12.6	
Toluene*	<0.050	0.050	08/15/2024	ND	2.03	102	2.00	12.5	
Ethylbenzene*	<0.050	0.050	08/15/2024	ND	2.14	107	2.00	12.7	
Total Xylenes*	<0.150	0.150	08/15/2024	ND	6.31	105	6.00	12.7	
Total BTEX	<0.300	0.300	08/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	976	16.0	08/14/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 60 4' (H244886-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2024	ND	2.03	101	2.00	1.85	
Toluene*	<0.050	0.050	08/14/2024	ND	2.15	108	2.00	1.72	
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.23	111	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.84	114	6.00	1.27	
Total BTEX	<0.300	0.300	08/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	768	16.0	08/14/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 121 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 61 4' (H244886-08)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2024	ND	2.03	101	2.00	1.85	
Toluene*	<0.050	0.050	08/14/2024	ND	2.15	108	2.00	1.72	
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.23	111	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.84	114	6.00	1.27	
Total BTEX	<0.300	0.300	08/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	08/14/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	36.8	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	20.7	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 88.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/13/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 62 4' (H244886-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2024	ND	2.03	101	2.00	1.85	
Toluene*	<0.050	0.050	08/14/2024	ND	2.15	108	2.00	1.72	
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.23	111	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.84	114	6.00	1.27	
Total BTEX	<0.300	0.300	08/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4800	16.0	08/14/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	296	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	165	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 133 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/12/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: SW 10 0-4' (H244886-10)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2024	ND	2.03	101	2.00	1.85	
Toluene*	<0.050	0.050	08/14/2024	ND	2.15	108	2.00	1.72	
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.23	111	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.84	114	6.00	1.27	
Total BTEX	<0.300	0.300	08/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	08/14/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 114 % 48.2-134

Surrogate: 1-Chlorooctadecane 136 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/12/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 54 4' (H244886-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2024	ND	2.03	101	2.00	1.85	
Toluene*	<0.050	0.050	08/14/2024	ND	2.15	108	2.00	1.72	
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.23	111	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.84	114	6.00	1.27	
Total BTEX	<0.300	0.300	08/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	08/14/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 110 % 48.2-134

Surrogate: 1-Chlorooctadecane 129 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/13/2024	Sampling Date:	08/12/2024
Reported:	08/16/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 53 6' (H244886-12)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/14/2024	ND	2.03	101	2.00	1.85	
Toluene*	<0.050	0.050	08/14/2024	ND	2.15	108	2.00	1.72	
Ethylbenzene*	<0.050	0.050	08/14/2024	ND	2.23	111	2.00	1.08	
Total Xylenes*	<0.150	0.150	08/14/2024	ND	6.84	114	6.00	1.27	
Total BTEX	<0.300	0.300	08/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18800	16.0	08/15/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/14/2024	ND	196	97.9	200	2.88	
DRO >C10-C28*	<10.0	10.0	08/14/2024	ND	210	105	200	0.445	
EXT DRO >C28-C36	<10.0	10.0	08/14/2024	ND					

Surrogate: 1-Chlorooctane 115 % 48.2-134

Surrogate: 1-Chlorooctadecane 141 % 49.1-148

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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

Company Name: Ensolium, LLC		BILL TO		ANALYSIS REQUEST											
Project Manager: Aimee Cole		P.O. #:													
Address: 3122 National Parks Hwy		Company: <u>ENSOLIUM, LLC</u>													
City: Carlsbad State: NM Zip: 88220		Attn: <u>Aimee Cole</u>													
Phone #: (720) 384-7365 Fax #:		Address:													
Project #: <u>03E2657107</u> Project Owner:		City:													
Project Name: <u>MCA 177</u>		State: Zip:													
Project Location: <u>32.805544, 103.770938</u>		Phone #:													
Sampler Name: <u>Mario Sarkis</u>		Fax #:													

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.	SAMPLING		DATE	TIME	BTEX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL					
<u>4244886</u>	SW11	0-4	C 1			✓				✓		8/13/24	1007	✓	✓	✓
<u>3</u>	SW17	0-6	C 1			✓				✓			1036	✓	✓	✓
<u>3</u>	SW19	0-6	C 1			✓				✓			1048	✓	✓	✓
<u>4</u>	FS57	4	C 1			✓				✓			1139	✓	✓	✓
<u>5</u>	FS58	4	C 1			✓				✓			1143	✓	✓	✓
<u>6</u>	FS59	4	C 1			✓				✓			1145	✓	✓	✓
<u>7</u>	FS60	4	C 1			✓				✓			1147	✓	✓	✓
<u>8</u>	FS61	4	C 1			✓				✓			1228	✓	✓	✓
<u>9</u>	FS62	4	C 1			✓				✓			1231	✓	✓	✓
<u>10</u>	SW10	0-4	C 1			✓				✓		8/12/24	1308	✓	✓	✓

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Relinquished By:	Date: <u>8/13/24</u>	Received By: <u>S. Rodriguez</u>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address:
Delivered By: (Circle One)	Observed Temp. °C: <u>2.2c</u>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>
Sampler - UPS - Bus - Other:	Corrected Temp. °C: <u>1.1c</u>	Checked By: (Initials) <u>SR</u>	Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
			Thermometer ID: <u>#14086</u>
			Correction Factor: <u>0.5°C - 0.6°C</u>

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 20, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/14/24 14:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/14/2024	Sampling Date:	08/14/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 32 8' (H244922-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/15/2024	ND	1.97	98.4	2.00	4.22	
Toluene*	<0.050	0.050	08/15/2024	ND	1.98	98.8	2.00	4.55	
Ethylbenzene*	<0.050	0.050	08/15/2024	ND	2.03	101	2.00	4.52	
Total Xylenes*	<0.150	0.150	08/15/2024	ND	6.00	100	6.00	5.13	
Total BTEX	<0.300	0.300	08/15/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5120	16.0	08/15/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/15/2024	ND	199	99.6	200	1.02	
DRO >C10-C28*	<10.0	10.0	08/15/2024	ND	200	99.9	200	4.50	
EXT DRO >C28-C36	<10.0	10.0	08/15/2024	ND					

Surrogate: 1-Chlorooctane 91.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 110 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/14/2024	Sampling Date:	08/14/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 33 7' (H244922-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/15/2024	ND	1.97	98.4	2.00	4.22		
Toluene*	<0.050	0.050	08/15/2024	ND	1.98	98.8	2.00	4.55		
Ethylbenzene*	<0.050	0.050	08/15/2024	ND	2.03	101	2.00	4.52		
Total Xylenes*	<0.150	0.150	08/15/2024	ND	6.00	100	6.00	5.13		
Total BTEX	<0.300	0.300	08/15/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4480	16.0	08/15/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/15/2024	ND	199	99.6	200	1.02		
DRO >C10-C28*	<10.0	10.0	08/15/2024	ND	200	99.9	200	4.50		
EXT DRO >C28-C36	<10.0	10.0	08/15/2024	ND						

Surrogate: 1-Chlorooctane 96.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Ensolum, LLC
Project Manager: Aimee Cole
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: (720) 384-7365 Fax #:
Project #: MCA177 Project Owner:
Project Name: O3E2057107
Project Location: 32,805544,-103,770938
Sampler Name: Mario Sarkis

Table with columns: Lab I.D., Sample I.D., Depth (feet), MATRIX (GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER), PRESERV. (ACID/BASE, ICE/COOL, OTHER), SAMPLING (DATE, TIME), and analysis results (BTEX, TPH, Chlorides).

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses.

Relinquished By: [Signature] Date: 8/14/24 Time: 1410
Received By: [Signature] Date: [Blank] Time: [Blank]
Verbal Result: [Blank] All Results are emailed. Please provide Email address: acole@ensolum.com/msarkis@ensolum.com
Observed Temp.: 24°C Corrected Temp.: 28°C
Sample Condition: Cool Intact [X] Yes [] No
Checked By: AD
Turnaround Time: 8-14-24 Standard Rush [X]
Bacteria (only) Sample Condition: Cool Intact [X] Yes [] No

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 20, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/16/24 13:33.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 56 7 (H244998-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/19/2024	ND	2.08	104	2.00	0.709	
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3920	16.0	08/19/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/19/2024	ND	224	112	200	3.48	
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29	
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND					

Surrogate: 1-Chlorooctane 80.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.6 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/16/2024	Sampling Date:	08/16/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 52 9 (H244998-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/19/2024	ND	2.08	104	2.00	0.709		
Toluene*	<0.050	0.050	08/19/2024	ND	2.16	108	2.00	1.27		
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	2.19	109	2.00	1.30		
Total Xylenes*	<0.150	0.150	08/19/2024	ND	6.81	113	6.00	1.11		
Total BTEX	<0.300	0.300	08/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16200	16.0	08/19/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/19/2024	ND	224	112	200	3.48		
DRO >C10-C28*	<10.0	10.0	08/19/2024	ND	213	107	200	5.29		
EXT DRO >C28-C36	<10.0	10.0	08/19/2024	ND						

Surrogate: 1-Chlorooctane 80.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST											
Project Manager: Aimee Cole				P.O. #:															
Address: 3122 National Parks Hwy				Company: <u>ENSOLUM, LLC</u>															
City: Carlsbad		State: NM		Zip: 88220		Attn: <u>Aimee Cole</u>													
Phone #: (720) 384-7365		Fax #:		Address:															
Project #: <u>03E2057107</u>		Project Owner:		City:															
Project Name: <u>MCA 177</u>		State:		Zip:		Phone #:													
Project Location: <u>32.805544, -103.770938</u>		Fax #:																	
Sampler Name: <u>Mario Sarkis</u>																			

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX						PRESERV.			SAMPLING		DATE	TIME	ANALYSIS				
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID/BASE:	ICE / COOL	OTHER									
<u>H244998</u>	<u>1 F556</u>	<u>7</u>	<u>C 1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<u>8/16/24</u>	<u>0817</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>BTEX</u>	<u>TPH</u>	<u>Chlorides</u>
	<u>2 F552</u>	<u>9</u>	<u>C 1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<u>8/16/24</u>	<u>1130</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: <u>8/16/24</u>	Received By: <u>S. Rodriguez</u>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:			
Time: <u>1333</u>	Date:	Received By:	All Results are emailed. Please provide Email address:				
Relinquished By:	Date:	Received By:	<u>acoje@ensolum.com / msarkis@ensolum.com</u>				
Time:	Date:	Received By:	REMARKS:				
Delivered By: (Circle One)	Observed Temp. °C: <u>4.4</u>	Sample Condition Cool Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <u>SR</u>	Turnaround Time: <u>#140 - old</u>	Standard <input type="checkbox"/> <u>Rush</u> <input checked="" type="checkbox"/>	Bacteria (only) Cool Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Condition Observed Temp. °C
Sampler - UPS - Bus - Other:	Corrected Temp. °C: <u>3.82</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID: <u>#113</u>	<u>72hr</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Corrected Temp. °C
				Correction Factor: <u>0.5°C</u>		<input type="checkbox"/> Yes <input type="checkbox"/> No	

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 20, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/19/24 16:13.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/19/2024	Sampling Date:	08/19/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 53 6.5 (H245028-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/19/2024	ND	2.00	99.8	2.00	0.208	
Toluene*	<0.050	0.050	08/19/2024	ND	1.93	96.7	2.00	0.277	
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	1.94	96.9	2.00	0.290	
Total Xylenes*	<0.150	0.150	08/19/2024	ND	5.75	95.8	6.00	0.423	
Total BTEX	<0.300	0.300	08/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.8 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7900	16.0	08/20/2024	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/20/2024	ND	204	102	200	3.03	
DRO >C10-C28*	<10.0	10.0	08/20/2024	ND	202	101	200	5.90	
EXT DRO >C28-C36	<10.0	10.0	08/20/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/19/2024	Sampling Date:	08/19/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 26 10 (H245028-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/19/2024	ND	2.00	99.8	2.00	0.208		
Toluene*	<0.050	0.050	08/19/2024	ND	1.93	96.7	2.00	0.277		
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	1.94	96.9	2.00	0.290		
Total Xylenes*	<0.150	0.150	08/19/2024	ND	5.75	95.8	6.00	0.423		
Total BTEX	<0.300	0.300	08/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	7700	16.0	08/20/2024	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/20/2024	ND	204	102	200	3.03		
DRO >C10-C28*	<10.0	10.0	08/20/2024	ND	202	101	200	5.90		
EXT DRO >C28-C36	<10.0	10.0	08/20/2024	ND						

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/19/2024	Sampling Date:	08/19/2024
Reported:	08/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 55 11 (H245028-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/19/2024	ND	2.00	99.8	2.00	0.208		
Toluene*	<0.050	0.050	08/19/2024	ND	1.93	96.7	2.00	0.277		
Ethylbenzene*	<0.050	0.050	08/19/2024	ND	1.94	96.9	2.00	0.290		
Total Xylenes*	<0.150	0.150	08/19/2024	ND	5.75	95.8	6.00	0.423		
Total BTEX	<0.300	0.300	08/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	9730	16.0	08/20/2024	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/20/2024	ND	204	102	200	3.03		
DRO >C10-C28*	<10.0	10.0	08/20/2024	ND	202	101	200	5.90		
EXT DRO >C28-C36	<10.0	10.0	08/20/2024	ND						

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.1 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Form containing company information (Ensolium, LLC), project details (Project # 03E2057107, Project Name MCA 177), and a table for lab analysis with columns for Lab I.D., Sample I.D., Depth, Matrix, and Sampling. Includes handwritten entries like 'H2U5028', 'F553', '6.5', and 'BTEX TPH Chlorides'.

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses.

Form for Relinquished/Received By, Verbal Result, and Turnaround Time. Includes handwritten signatures, dates (8/19/24), and times (1413). Turnaround time is marked as 'Rush'.

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 26, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/20/24 13:32.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder".

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/20/2024	Sampling Date:	08/20/2024
Reported:	08/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: PH 01 7 (H245057-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/21/2024	ND	2.19	109	2.00	0.199	
Toluene*	<0.050	0.050	08/21/2024	ND	2.25	113	2.00	1.55	
Ethylbenzene*	<0.050	0.050	08/21/2024	ND	2.26	113	2.00	0.302	
Total Xylenes*	<0.150	0.150	08/21/2024	ND	6.87	115	6.00	0.217	
Total BTEX	<0.300	0.300	08/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	08/22/2024	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2024	ND	197	98.7	200	0.385	
DRO >C10-C28*	<10.0	10.0	08/22/2024	ND	189	94.5	200	1.39	
EXT DRO >C28-C36	<10.0	10.0	08/22/2024	ND					

Surrogate: 1-Chlorooctane 84.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.1 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																				
Project Manager: Aimee Cole				P.O. #:																								
Address: 3122 National Parks Hwy				Company: ENSOLUM, LLC																								
City: Carlsbad		State: NM		Zip: 88220		Attn: Aimee Cole																						
Phone #: (720) 384-7365		Fax #:		Address:																								
Project #: 03E2657107		Project Owner:		City:																								
Project Name: MCA 177				State:				Zip:																				
Project Location: 32.805544, -103.770938				Phone #:																								
Sampler Name: Maria Sarkis				Fax #:																								
FOR LAB USE ONLY																												
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.			SAMPLING															
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME													
H245057 1	PH01	7	61				✓					✓		8/20/24	0946	✓	✓	✓	BTEX TPH Chlorides									

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 8/20/24	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:	
Time: 1332			All Results are emailed. Please provide Email address:		
Relinquished By:	Date:	Received By:	a.cole@ensolum.com / m.sarkis@ensolum.com		
Time:			REMARKS:		
Delivered By: (Circle One)	Observed Temp. °C: 5.3	Sample Condition: Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials)	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	Bacteria (only) Sample Condition: Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No
Sampler - UPS - Bus - Other:	Corrected Temp. °C: 4.72			Thermometer ID #113	Observed Temp. °C
				Correction Factor: -0.5°C	Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 26, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/20/24 13:32.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder".

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/20/2024	Sampling Date:	08/20/2024
Reported:	08/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: PH 01 8 (H245058-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/21/2024	ND	2.19	109	2.00	0.199	
Toluene*	<0.050	0.050	08/21/2024	ND	2.25	113	2.00	1.55	
Ethylbenzene*	<0.050	0.050	08/21/2024	ND	2.26	113	2.00	0.302	
Total Xylenes*	<0.150	0.150	08/21/2024	ND	6.87	115	6.00	0.217	
Total BTEX	<0.300	0.300	08/21/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	08/22/2024	ND	448	112	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2024	ND	197	98.7	200	0.385	
DRO >C10-C28*	<10.0	10.0	08/22/2024	ND	189	94.5	200	1.39	
EXT DRO >C28-C36	<10.0	10.0	08/22/2024	ND					

Surrogate: 1-Chlorooctane 89.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 97.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																							
Project Manager: Aimee Cole				P.O. #:																											
Address: 3122 National Parks Hwy				Company: <u>ENSOLUM, LLC</u>																											
City: Carlsbad		State: NM		Zip: 88220		Attn: <u>Aimee Cole</u>																									
Phone #: (720) 384-7365		Fax #:		Address:																											
Project #: <u>03E2057107</u>				Project Owner:																City:											
Project Name: <u>MCA 177</u>				State:																Zip:											
Project Location: <u>32.805544, -103.770938</u>				Phone #:																Fax #:											
Sampler Name: <u>Mario Sarkis</u>				Fax #:																											
FOR LAB USE ONLY																															
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX				PRESERV.			SAMPLING																			
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME																
<u>H245058</u>	<u>PHO1</u>	<u>8</u>	<u>G</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<u>8/20/24</u>	<u>0958</u>	<input checked="" type="checkbox"/>	<u>BTEX</u>	<input checked="" type="checkbox"/>	<u>TPH</u>	<input checked="" type="checkbox"/>	<u>Chlorides</u>										

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Relinquished By:	Date: <u>8/20/24</u>	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:	
	Time: <u>1330</u>	<u>Sprodreiquery</u>	All Results are emailed. Please provide Email address:		
Relinquished By:	Date:	Received By:	<u>acole@ensolum.com / msarkis@ensolum.com</u>		
	Time:		REMARKS:		
Delivered By: (Circle One)	Observed Temp. °C: <u>5.3</u>	Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <u>SR</u>	Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	Bacteria (only) Sample Condition Cool Intact Observed Temp. °C
Sampler - UPS - Bus - Other:	Corrected Temp. °C: <u>4.72</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID: <u>#113</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No
				Correction Factor: <u>0.5C</u>	<input type="checkbox"/> No <input type="checkbox"/> No
					Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsonm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 26, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/21/24 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly distinguishable.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/21/2024	Sampling Date:	08/21/2024
Reported:	08/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: PH 09 2' (H245107-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/23/2024	ND	2.04	102	2.00	1.26	
Toluene*	<0.050	0.050	08/23/2024	ND	1.97	98.7	2.00	0.495	
Ethylbenzene*	<0.050	0.050	08/23/2024	ND	1.97	98.5	2.00	0.414	
Total Xylenes*	<0.150	0.150	08/23/2024	ND	5.87	97.8	6.00	0.150	
Total BTEX	<0.300	0.300	08/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/23/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2024	ND	204	102	200	1.43	
DRO >C10-C28*	<10.0	10.0	08/23/2024	ND	193	96.6	200	2.44	
EXT DRO >C28-C36	<10.0	10.0	08/23/2024	ND					

Surrogate: 1-Chlorooctane 78.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.0 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/21/2024	Sampling Date:	08/21/2024
Reported:	08/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: PH 09 6' (H245107-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/23/2024	ND	2.04	102	2.00	1.26		
Toluene*	<0.050	0.050	08/23/2024	ND	1.97	98.7	2.00	0.495		
Ethylbenzene*	<0.050	0.050	08/23/2024	ND	1.97	98.5	2.00	0.414		
Total Xylenes*	<0.150	0.150	08/23/2024	ND	5.87	97.8	6.00	0.150		
Total BTEX	<0.300	0.300	08/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	08/23/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2024	ND	204	102	200	1.43		
DRO >C10-C28*	<10.0	10.0	08/23/2024	ND	193	96.6	200	2.44		
EXT DRO >C28-C36	<10.0	10.0	08/23/2024	ND						

Surrogate: 1-Chlorooctane 75.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.2 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/21/2024	Sampling Date:	08/21/2024
Reported:	08/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: PH 09 11' (H245107-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/23/2024	ND	2.04	102	2.00	1.26	
Toluene*	<0.050	0.050	08/23/2024	ND	1.97	98.7	2.00	0.495	
Ethylbenzene*	<0.050	0.050	08/23/2024	ND	1.97	98.5	2.00	0.414	
Total Xylenes*	<0.150	0.150	08/23/2024	ND	5.87	97.8	6.00	0.150	
Total BTEX	<0.300	0.300	08/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/23/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/23/2024	ND	204	102	200	1.43	
DRO >C10-C28*	<10.0	10.0	08/23/2024	ND	193	96.6	200	2.44	
EXT DRO >C28-C36	<10.0	10.0	08/23/2024	ND					

Surrogate: 1-Chlorooctane 74.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Handwritten signature of Mike Snyder

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Ensolum, LLC
Project Manager: Aimee Cole
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: (720) 384-7365 Fax #:
Project #: 03E2057107 Project Owner:
Project Name: MCA 177
Project Location: 32.805544, -103.770938
Sampler Name: Mario Sarkis

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses.

Relinquished By: [Signature] Date: 8/21/24 Time: 1:53
Received By: [Signature] Date: [Blank] Time: [Blank]
Verbal Result: [Blank] All Results are emailed. Please provide Email address: acole@ensolum.com/m.sarkis@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C: 4.8°C Corrected Temp. °C: 4.2°C
Sample Condition: Cool Intact [X] Yes [] No
CHECKED BY: (Initials) [Signature]
Turnaround Time: Standard [X] Rush [] Bacteria (only) Sample Condition: Cool Intact [X] Yes [] No Observed Temp. °C: [Blank] Corrected Temp. °C: [Blank]

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsonm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

August 26, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/23/24 12:22.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/23/2024	Sampling Date:	08/23/2024
Reported:	08/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS52 10 (H245151-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/23/2024	ND	2.23	112	2.00	6.88		
Toluene*	<0.050	0.050	08/23/2024	ND	2.13	106	2.00	6.28		
Ethylbenzene*	<0.050	0.050	08/23/2024	ND	2.10	105	2.00	5.95		
Total Xylenes*	<0.150	0.150	08/23/2024	ND	6.23	104	6.00	6.09		
Total BTEX	<0.300	0.300	08/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	480	16.0	08/26/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2024	ND	220	110	200	3.50		
DRO >C10-C28*	<10.0	10.0	08/23/2024	ND	215	107	200	5.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2024	ND						

Surrogate: 1-Chlorooctane 65.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 76.7 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/23/2024	Sampling Date:	08/23/2024
Reported:	08/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW17 6-11 (H245151-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/23/2024	ND	2.23	112	2.00	6.88		
Toluene*	<0.050	0.050	08/23/2024	ND	2.13	106	2.00	6.28		
Ethylbenzene*	<0.050	0.050	08/23/2024	ND	2.10	105	2.00	5.95		
Total Xylenes*	<0.150	0.150	08/23/2024	ND	6.23	104	6.00	6.09		
Total BTEX	<0.300	0.300	08/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2400	16.0	08/26/2024	ND	432	108	400	3.64		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/23/2024	ND	220	110	200	3.50		
DRO >C10-C28*	<10.0	10.0	08/23/2024	ND	215	107	200	5.58		
EXT DRO >C28-C36	<10.0	10.0	08/23/2024	ND						

Surrogate: 1-Chlorooctane 77.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 91.6 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST												
Project Manager: Aimee Cole		P.O. #:														
Address: 3122 National Parks Hwy		Company: <u>Ensolum, LLC</u>														
City: Carlsbad	State: NM	Zip: 88220	Attn: <u>Aimee Cole</u>													
Phone #: (720) 384-7365	Fax #:		Address:													
Project #: <u>03E2057107</u>	Project Owner:		City:													
Project Name: <u>MCA 127</u>			State:													Zip:
Project Location: <u>32.805544, -103.770938</u>			Phone #:													
Sampler Name: <u>Mario Sarkis</u>			Fax #:													

FOR LAB USE ONLY		Depth (feet)	(G/RAB OR (C)OMP. # CONTAINERS	MATRIX						PRESERV.		SAMPLING		DATE	TIME	BTEX	TPH	Chlorides
Lab I.D.	Sample I.D.			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:						
<u>H245151</u>	<u>F552</u>	<u>10</u>	<u>C</u>							<input checked="" type="checkbox"/>		<u>8/23/24</u>	<u>1050</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<u>2</u>	<u>SW17</u>	<u>6-11</u>	<u>C</u>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<u>8/23/24</u>	<u>1100</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

MPS

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Relinquished By:	Date: <u>8/23/24</u>	Received By: <u>[Signature]</u>	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:	
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address: <u>acole@ensolum.com / msarkis@ensolum.com</u>		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: <u>6.22</u>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <u>AP</u>	Turnaround Time: Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>	Bacteria (only) Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
	Corrected Temp. °C: <u>5.16</u>			Thermometer ID # <u>1143</u>	Observed Temp. °C
				Correction Factor: <u>0.5°C</u>	Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 03, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 08/27/24 15:19.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/27/2024	Sampling Date:	08/27/2024
Reported:	09/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: PH 10 1' (H245219-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2024	ND	1.80	90.0	2.00	5.00		
Toluene*	<0.050	0.050	08/29/2024	ND	1.77	88.5	2.00	3.40		
Ethylbenzene*	<0.050	0.050	08/29/2024	ND	1.80	90.1	2.00	2.30		
Total Xylenes*	<0.150	0.150	08/29/2024	ND	5.36	89.4	6.00	2.06		
Total BTEX	<0.300	0.300	08/29/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.4 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3360	16.0	08/29/2024	ND	432	108	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/29/2024	ND	195	97.5	200	7.40		
DRO >C10-C28*	<10.0	10.0	08/29/2024	ND	189	94.7	200	4.79		
EXT DRO >C28-C36	<10.0	10.0	08/29/2024	ND						

Surrogate: 1-Chlorooctane 97.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 106 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	08/27/2024	Sampling Date:	08/27/2024
Reported:	09/03/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: PH 10 4' (H245219-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/29/2024	ND	1.80	90.0	2.00	5.00		
Toluene*	<0.050	0.050	08/29/2024	ND	1.77	88.5	2.00	3.40		
Ethylbenzene*	<0.050	0.050	08/29/2024	ND	1.80	90.1	2.00	2.30		
Total Xylenes*	<0.150	0.150	08/29/2024	ND	5.36	89.4	6.00	2.06		
Total BTEX	<0.300	0.300	08/29/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	08/29/2024	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/29/2024	ND	206	103	200	0.332		
DRO >C10-C28*	<10.0	10.0	08/29/2024	ND	214	107	200	0.376		
EXT DRO >C28-C36	<10.0	10.0	08/29/2024	ND						

Surrogate: 1-Chlorooctane 93.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Ensolum, LLC
Project Manager: Aimee Cole
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: (720) 384-7365 Fax #:
Project #: 03E2057107 Project Owner:
Project Name: MCA 177
Project Location: 32.805544, -103.770938
Sampler Name: Mario Sakhis

Table with columns: Lab I.D., Sample I.D., Depth (feet), MATRIX (GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER), PRESERV. (ACID/BASE, ICE/COOL, OTHER), SAMPLING (DATE, TIME), and analysis results for BTEX, TPH, Chlorides.

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses.

Relinquished By: [Signature] Date: 8/27/24 Time: 1:519
Received By: [Signature] Date: [Blank] Time: [Blank]
Verbal Result: [Blank] All Results are emailed. Please provide Email address: acore@ensolum.com / msakhis@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp: 3.2 C Corrected Temp: 2.7 C
Sample Condition Cool Intact: [Blank]
CHECKED BY: (Initials) [Signature]
Turnaround Time: 8-27-24 Standard Rush [Checked]
Thermometer ID #443 Correction Factor -0.5 C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 17, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/12/24 13:16.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/12/2024	Sampling Date:	09/10/2024
Reported:	09/17/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 66 4.5' (H245533-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2024	ND	2.22	111	2.00	1.39	
Toluene*	<0.050	0.050	09/14/2024	ND	2.26	113	2.00	0.628	
Ethylbenzene*	<0.050	0.050	09/14/2024	ND	2.26	113	2.00	0.0666	
Total Xylenes*	<0.150	0.150	09/14/2024	ND	6.94	116	6.00	0.263	
Total BTEX	<0.300	0.300	09/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6240	16.0	09/13/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	201	100	200	1.17	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	200	100	200	1.64	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/12/2024	Sampling Date:	09/10/2024
Reported:	09/17/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 67 4.5' (H245533-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2024	ND	2.10	105	2.00	4.80	
Toluene*	<0.050	0.050	09/14/2024	ND	1.99	99.7	2.00	3.29	
Ethylbenzene*	<0.050	0.050	09/14/2024	ND	2.03	101	2.00	3.39	
Total Xylenes*	<0.150	0.150	09/14/2024	ND	6.13	102	6.00	4.25	
Total BTEX	<0.300	0.300	09/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	09/13/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	201	100	200	1.17	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	200	100	200	1.64	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 97.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/12/2024	Sampling Date:	09/10/2024
Reported:	09/17/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 68 4.5' (H245533-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2024	ND	2.10	105	2.00	4.80	
Toluene*	<0.050	0.050	09/14/2024	ND	1.99	99.7	2.00	3.29	
Ethylbenzene*	<0.050	0.050	09/14/2024	ND	2.03	101	2.00	3.39	
Total Xylenes*	<0.150	0.150	09/14/2024	ND	6.13	102	6.00	4.25	
Total BTEX	<0.300	0.300	09/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6160	16.0	09/13/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	198	99.0	200	1.28	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	193	96.4	200	2.06	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 97.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/12/2024	Sampling Date:	09/10/2024
Reported:	09/17/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 69 4.5' (H245533-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/14/2024	ND	2.10	105	2.00	4.80		
Toluene*	<0.050	0.050	09/14/2024	ND	1.99	99.7	2.00	3.29		
Ethylbenzene*	<0.050	0.050	09/14/2024	ND	2.03	101	2.00	3.39		
Total Xylenes*	<0.150	0.150	09/14/2024	ND	6.13	102	6.00	4.25		
Total BTEX	<0.300	0.300	09/14/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3920	16.0	09/13/2024	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	198	99.0	200	1.28		
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	193	96.4	200	2.06		
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND						

Surrogate: 1-Chlorooctane 97.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/12/2024	Sampling Date:	09/10/2024
Reported:	09/17/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.805544, -103.770938		

Sample ID: FS 70 4.5' (H245533-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/14/2024	ND	2.10	105	2.00	4.80	
Toluene*	<0.050	0.050	09/14/2024	ND	1.99	99.7	2.00	3.29	
Ethylbenzene*	<0.050	0.050	09/14/2024	ND	2.03	101	2.00	3.39	
Total Xylenes*	<0.150	0.150	09/14/2024	ND	6.13	102	6.00	4.25	
Total BTEX	<0.300	0.300	09/14/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1640	16.0	09/13/2024	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/13/2024	ND	198	99.0	200	1.28	
DRO >C10-C28*	<10.0	10.0	09/13/2024	ND	193	96.4	200	2.06	
EXT DRO >C28-C36	<10.0	10.0	09/13/2024	ND					

Surrogate: 1-Chlorooctane 91.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST											
Project Manager: Aimee Cole		P.O. #:													
Address: 3122 National Parks Hwy		Company: ENSOLUM, LLC													
City: Carlsbad State: NM Zip: 88220		Attn: Aimee Cole													
Phone #: (720) 384-7365 Fax #:		Address:													
Project #: 03E2057107 Project Owner:		City:													
Project Name: MCA 177		State: Zip:													
Project Location: 32.8055 44, -103.7709 38		Phone #:													
Sampler Name: Mario Sackis		Fax #:													

FOR LAB USE ONLY		Depth (feet)	(G/RAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.		SAMPLING		DATE	TIME	BTEX	TPH	Chlorides
Lab I.D.	Sample I.D.			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:					
H245533																	
1	FS66	4.5	C 1			✓			✓			9/10/24	1045	✓	✓	✓	
2	FS67	4.5	C 1			✓			✓				1047	✓	✓	✓	
3	FS68	4.5	C 1			✓			✓				1049	✓	✓	✓	
4	FS69	4.5	C 1			✓			✓				1051	✓	✓	✓	
5	FS70	4.5	C 1			✓			✓				1053	✓	✓	✓	

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Relinquished By:	Date: 9/12/24	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	All Results are emailed. Please provide Email address: a.cole@ensolum.com / msackis@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: 49.2 Corrected Temp. °C: 4.8	Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No	CHECKED BY: (Initials) SR
		Turnaround Time: #140 Thermometer ID: #143 Correction Factor: -0.5°C	Standard Rush <input checked="" type="checkbox"/> Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 19, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/16/24 15:58.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 13 9 (H245626-01)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2024	ND	2.04	102	2.00	2.40		
Toluene*	<0.050	0.050	09/17/2024	ND	1.91	95.7	2.00	2.59		
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	1.93	96.4	2.00	2.47		
Total Xylenes*	<0.150	0.150	09/17/2024	ND	5.72	95.4	6.00	2.68		
Total BTEX	<0.300	0.300	09/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.5 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	09/18/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818		
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100		
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND						

Surrogate: 1-Chlorooctane 83.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 84 5.5 (H245626-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86		
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97		
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31		
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24		
Total BTEX	<0.300	0.300	09/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	09/18/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818		
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100		
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND						

Surrogate: 1-Chlorooctane 91.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.7 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 85 5.5 (H245626-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86		
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97		
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31		
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24		
Total BTEX	<0.300	0.300	09/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2360	16.0	09/18/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818		
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100		
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND						

Surrogate: 1-Chlorooctane 86.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.6 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 86 5.5 (H245626-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86		
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97		
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31		
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24		
Total BTEX	<0.300	0.300	09/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	09/18/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818		
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100		
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND						

Surrogate: 1-Chlorooctane 91.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.5 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 87 5.5 (H245626-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86	
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97	
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31	
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24	
Total BTEX	<0.300	0.300	09/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4040	16.0	09/18/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818	
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100	
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND					

Surrogate: 1-Chlorooctane 75.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.7 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 88 5.5 (H245626-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86	
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97	
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31	
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24	
Total BTEX	<0.300	0.300	09/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7040	16.0	09/18/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818	
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100	
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND					

Surrogate: 1-Chlorooctane 88.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.4 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 89 5.5 (H245626-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86	
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97	
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31	
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24	
Total BTEX	<0.300	0.300	09/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2920	16.0	09/18/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818	
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100	
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND					

Surrogate: 1-Chlorooctane 85.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 85.8 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 90 5.5 (H245626-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86		
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97		
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31		
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24		
Total BTEX	<0.300	0.300	09/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3160	16.0	09/18/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818		
DRO >C10-C28*	71.2	10.0	09/17/2024	ND	207	103	200	0.100		
EXT DRO >C28-C36	34.1	10.0	09/17/2024	ND						

Surrogate: 1-Chlorooctane 86.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.2 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 91 5.5 (H245626-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86	
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97	
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31	
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24	
Total BTEX	<0.300	0.300	09/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6080	16.0	09/18/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818	
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100	
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND					

Surrogate: 1-Chlorooctane 85.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.5 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 92 5.5 (H245626-10)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86	
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97	
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31	
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24	
Total BTEX	<0.300	0.300	09/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7360	16.0	09/18/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818	
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100	
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND					

Surrogate: 1-Chlorooctane 86.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 87.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 63 5.5 (H245626-11)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86		
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97		
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31		
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24		
Total BTEX	<0.300	0.300	09/17/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8160	16.0	09/18/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818		
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100		
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND						

Surrogate: 1-Chlorooctane 97.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 64 5.5 (H245626-12)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86	
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97	
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31	
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24	
Total BTEX	<0.300	0.300	09/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1800	16.0	09/18/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818	
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100	
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 103 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/16/2024	Sampling Date:	09/16/2024
Reported:	09/19/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 65 5.5 (H245626-13)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/17/2024	ND	2.20	110	2.00	2.86	
Toluene*	<0.050	0.050	09/17/2024	ND	2.03	102	2.00	4.97	
Ethylbenzene*	<0.050	0.050	09/17/2024	ND	2.05	103	2.00	5.31	
Total Xylenes*	<0.150	0.150	09/17/2024	ND	6.22	104	6.00	5.24	
Total BTEX	<0.300	0.300	09/17/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2800	16.0	09/18/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/17/2024	ND	202	101	200	0.818	
DRO >C10-C28*	<10.0	10.0	09/17/2024	ND	207	103	200	0.100	
EXT DRO >C28-C36	<10.0	10.0	09/17/2024	ND					

Surrogate: 1-Chlorooctane 97.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 99.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 2

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST									
Project Manager: Aimee Cole		P.O. #:											
Address: 3122 National Parks Hwy		Company: ENSOLUM, LLC											
City: Carlsbad State: NM Zip: 88220		Attn: Aimee Cole											
Phone #: (720) 384-7365 Fax #:		Address:											
Project #: 03E2057107 Project Owner:		City:											
Project Name: MCA 177		State: Zip:											
Project Location: 32.805544, -103.770938		Phone #:											
Sampler Name: Mario Sarkis		Fax #:											

Lab I.D.	Sample I.D.	Depth (feet)	(GRAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.			SAMPLING		DATE	TIME	BTEX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:						
H25020	FS13	9	C 1			✓					✓	✓	✓	9/16/24	0954	✓	✓	✓
2	FS 84	5.5	C 1			✓					✓	✓	✓		1056	✓	✓	✓
3	FS 85	5.5	C 1			✓					✓	✓	✓		1059	✓	✓	✓
4	FS 86	5.5	C 1			✓					✓	✓	✓		1102	✓	✓	✓
5	FS 87	5.5	C 1			✓					✓	✓	✓		1106	✓	✓	✓
6	FS 88	5.5	C 1			✓					✓	✓	✓		1115	✓	✓	✓
7	FS 89	5.5	C 1			✓					✓	✓	✓		1124	✓	✓	✓
8	FS 90	5.5	C 1			✓					✓	✓	✓		1127	✓	✓	✓
9	FS 91	5.5	C 1			✓					✓	✓	✓		1133	✓	✓	✓
10	FS 92	5.5	C 1			✓					✓	✓	✓		1135	✓	✓	✓

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Relinquished By:	Date: 9/16/24	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
Time: 1:58			All Results are emailed. Please provide Email address:	
Relinquished By:	Date:	Received By:	acoje@ensolum.com / msarkis@ensolum.com	
Time:			REMARKS:	
Delivered By: (Circle One)	Observed Temp. °C: 24.2	Sample Condition: Cool Intact	Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	Bacteria (only) Sample Condition: Cool Intact Observed Temp. °C
Sampler - UPS - Bus - Other:	Corrected Temp. °C: 1.8	Checked By: (Initials) AP	Thermometer ID: #1434140	<input type="checkbox"/> Yes <input type="checkbox"/> No
			Correction Factor: +0.5°C -0.0	<input type="checkbox"/> Yes <input type="checkbox"/> No Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 20, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/17/24 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Mike Snyder". The signature is fluid and cursive, with the first name "Mike" and last name "Snyder" clearly legible.

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 32 0-5.5 (H245650-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89	
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	09/18/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816	
DRO >C10-C28*	62.6	10.0	09/18/2024	ND	227	113	200	1.21	
EXT DRO >C28-C36	48.1	10.0	09/18/2024	ND					

Surrogate: 1-Chlorooctane 97.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 33 0-5.5 (H245650-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89	
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/18/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816	
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	227	113	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 20 0-4.5 (H245650-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89		
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	09/18/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816		
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	227	113	200	1.21		
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND						

Surrogate: 1-Chlorooctane 105 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: SW 21 0-4.5 (H245650-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89	
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/18/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816	
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	227	113	200	1.21	
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 83 4 (H245650-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89		
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2160	16.0	09/18/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816		
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	227	113	200	1.21		
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND						

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 120 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 81 4 (H245650-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89		
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3240	16.0	09/18/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816		
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	227	113	200	1.21		
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND						

Surrogate: 1-Chlorooctane 93.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 80 4 (H245650-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89		
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6160	16.0	09/18/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816		
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	227	113	200	1.21		
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND						

Surrogate: 1-Chlorooctane 97.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 79 4 (H245650-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89		
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	5520	16.0	09/18/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816		
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	227	113	200	1.21		
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND						

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 118 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 71 4 (H245650-09)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89		
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4320	16.0	09/18/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	221	110	200	0.816		
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	227	113	200	1.21		
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND						

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 119 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 72 4 (H245650-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89		
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43		
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79		
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46		
Total BTEX	<0.300	0.300	09/19/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	624	16.0	09/18/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	210	105	200	2.76		
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	189	94.5	200	9.28		
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND						

Surrogate: 1-Chlorooctane 84.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/17/2024	Sampling Date:	09/17/2024
Reported:	09/20/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.805544, -103.770938		

Sample ID: FS 73 4 (H245650-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/19/2024	ND	2.27	114	2.00	1.89	
Toluene*	<0.050	0.050	09/19/2024	ND	2.38	119	2.00	2.43	
Ethylbenzene*	<0.050	0.050	09/19/2024	ND	2.59	130	2.00	4.79	
Total Xylenes*	<0.150	0.150	09/19/2024	ND	7.96	133	6.00	6.46	
Total BTEX	<0.300	0.300	09/19/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	09/18/2024	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/18/2024	ND	210	105	200	2.76	
DRO >C10-C28*	<10.0	10.0	09/18/2024	ND	189	94.5	200	9.28	
EXT DRO >C28-C36	<10.0	10.0	09/18/2024	ND					

Surrogate: 1-Chlorooctane 85.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 104 % 49.1-148

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS-3 Blank spike recovery outside of lab established statistical limits, but still within method limits. Data is not adversely affected.
BS1 Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Handwritten signature of Mike Snyder

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

10Fa

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST											
Project Manager: Aimee Cole		P.O. #:													
Address: 3122 National Parks Hwy		Company: ENSOLUM, LLC													
City: Carlsbad State: NM Zip: 88220		Attn: Aimee Cole													
Phone #: (720) 384-7365 Fax #:		Address:													
Project #: 03E2057107 Project Owner:		City:													
Project Name: MCA 177		State: Zip:													
Project Location: 32.805544, -103.770938		Phone #:													
Sampler Name: Mario Sarkis		Fax #:													

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX						PRESERV.			SAMPLING		DATE	TIME	BTEX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :							
H245450																			
1	SW32	0-5.5	C 1			✓					✓	✓	✓	9/17/24	0953	✓	✓	✓	
2	SW33	0-5.5	C 1			✓					✓	✓	✓		1000	✓	✓	✓	
3	SW20	0-4.5	C 1			✓					✓	✓	✓		1032	✓	✓	✓	
4	SW21	0-4.5	C 1			✓					✓	✓	✓		1034	✓	✓	✓	
5	FS83	4	C 1			✓					✓	✓	✓		1257	✓	✓	✓	
6	FS81	4	C 1			✓					✓	✓	✓		1307	✓	✓	✓	
7	FS80	4	C 1			✓					✓	✓	✓		1308	✓	✓	✓	
8	FS79	4	C 1			✓					✓	✓	✓		1311	✓	✓	✓	
9	FS71	4	C 1			✓					✓	✓	✓		1323	✓	✓	✓	
10	FS72	4	C 1			✓					✓	✓	✓		1327	✓	✓	✓	

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Relinquished By:	Date: 9/17/24 Time: 1:00	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	REMARKS: ncole@ensolum.com / msarkis@ensolum.com
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: 1.4 Corrected Temp. °C: 0.8	Sample Condition Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) AD
Turnaround Time: AD 9-17-24 #140	Standard <input checked="" type="checkbox"/> Rush	Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No	Thermometer ID #115 Correction Factor -0.5°C -D-10

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																																	
Project Manager: Aimee Cole				P.O. #:																																					
Address: 3122 National Parks Hwy				Company: ENSOLUM, LLC																																					
City: Carlsbad		State: NM		Zip: 88220		Attn: Aimee Cole																																			
Phone #: (720) 384-7365		Fax #:		Address:																																					
Project #: 03E2057107		Project Owner:		City:																																					
Project Name: MCA 177				State:		Zip:																																			
Project Location: 32.805544, -103.770938				Phone #:																																					
Sampler Name: Mario Sarkis				Fax #:																																					
FOR LAB USE ONLY																																									
Lab I.D.		Sample I.D.		Depth (feet)		(GIRAB OR (C)OMP. # CONTAINERS)		MATRIX				PRESERV.		SAMPLING																											
H245050 11		F573		4		C-1		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME		BTEX TPH Chlorides											
																										9/17/24		1330		MPS											

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Relinquished By:		Date: 9/17/24		Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:			
Time: 1400		Date:		Received By:		All Results are emailed. Please provide Email address:					
Relinquished By:		Date:		Received By:		a.cole@ensolum.com / msarkis@ensolum.com					
Time:		Date:		Received By:		REMARKS:					
Delivered By: (Circle One)		Observed Temp. °C: 14.0		Sample Condition		CHECKED BY: (Initials)		Turnaround Time: Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>		Bacteria (only) Sample Condition	
Sampler - UPS - Bus - Other:		Corrected Temp. °C: 0.8		Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		AP		Thermometer ID #113 #115		Cool Intact <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
								Correction Factor -0.5°C		Observed Temp. °C	
										Corrected Temp. °C	

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 25, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/19/24 15:17.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/19/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: SW 36 0-5.5' (H245730-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2024	ND	2.13	107	2.00	3.27	
Toluene*	<0.050	0.050	09/20/2024	ND	2.21	110	2.00	2.49	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	2.24	112	2.00	1.66	
Total Xylenes*	<0.150	0.150	09/20/2024	ND	6.81	114	6.00	1.52	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	09/20/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	192	96.2	200	1.92	
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	195	97.6	200	1.37	
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND					

Surrogate: 1-Chlorooctane 93.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/19/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: SW 24 0-5.5' (H245730-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541	
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322	
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/20/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	192	96.2	200	1.92	
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	195	97.6	200	1.37	
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND					

Surrogate: 1-Chlorooctane 85.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 73.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/19/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: SW 34 0-5.5' (H245730-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541		
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345		
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322		
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289		
Total BTEX	<0.300	0.300	09/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	09/20/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	192	96.2	200	1.92		
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	195	97.6	200	1.37		
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND						

Surrogate: 1-Chlorooctane 81.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 68.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/19/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: FS 93 5.5' (H245730-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541		
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345		
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322		
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289		
Total BTEX	<0.300	0.300	09/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2320	16.0	09/20/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	192	96.2	200	1.92		
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	195	97.6	200	1.37		
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND						

Surrogate: 1-Chlorooctane 81.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 69.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/19/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: FS 78 5' (H245730-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541		
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345		
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322		
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289		
Total BTEX	<0.300	0.300	09/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	4160	16.0	09/20/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	192	96.2	200	1.92		
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	195	97.6	200	1.37		
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND						

Surrogate: 1-Chlorooctane 88.7 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.7 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/19/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: FS 77 5' (H245730-06)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541	
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322	
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1550	16.0	09/20/2024	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	192	96.2	200	1.92	
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	195	97.6	200	1.37	
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND					

Surrogate: 1-Chlorooctane 87.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 74.4 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/19/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: SW 23 0-4.5' (H245730-07)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541	
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322	
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	09/20/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	203	102	200	1.05	
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	196	97.9	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND					

Surrogate: 1-Chlorooctane 87.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 82.6 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: FS 74 4' (H245730-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541		
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345		
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322		
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289		
Total BTEX	<0.300	0.300	09/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	496	16.0	09/20/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	203	102	200	1.05		
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	196	97.9	200	2.11		
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND						

Surrogate: 1-Chlorooctane 94.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.8 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: FS 75 2.5' (H245730-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541	
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345	
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322	
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289	
Total BTEX	<0.300	0.300	09/20/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	09/20/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	203	102	200	1.05	
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	196	97.9	200	2.11	
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND					

Surrogate: 1-Chlorooctane 89.1 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: FS 76 2.5' (H245730-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541		
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345		
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322		
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289		
Total BTEX	<0.300	0.300	09/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/20/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	203	102	200	1.05		
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	196	97.9	200	2.11		
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND						

Surrogate: 1-Chlorooctane 78.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 75.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/19/2024	Sampling Date:	09/18/2024
Reported:	09/25/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: FS 82 5' (H245730-11)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/20/2024	ND	2.07	104	2.00	0.541		
Toluene*	<0.050	0.050	09/20/2024	ND	1.95	97.7	2.00	0.345		
Ethylbenzene*	<0.050	0.050	09/20/2024	ND	1.99	99.3	2.00	0.322		
Total Xylenes*	<0.150	0.150	09/20/2024	ND	5.89	98.1	6.00	0.289		
Total BTEX	<0.300	0.300	09/20/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6900	16.0	09/20/2024	ND	416	104	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/20/2024	ND	203	102	200	1.05		
DRO >C10-C28*	<10.0	10.0	09/20/2024	ND	196	97.9	200	2.11		
EXT DRO >C28-C36	<10.0	10.0	09/20/2024	ND						

Surrogate: 1-Chlorooctane 77.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 78.0 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2098

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																																			
Project Manager: Aimee Cole				P.O. #:																																							
Address: 3122 National Parks Hwy				Company:																																							
City: Carlsbad		State: NM		Zip: 88220		Attn:																																					
Phone #: (720) 384-7365		Fax #:		Address:																																							
Project #:		Project Owner:		City:																																							
Project Name:				State:				Zip:																																			
Project Location:				Phone #:																																							
Sampler Name:				Fax #:																																							
FOR LAB USE ONLY																																											
Lab I.D.		Sample I.D.		Depth (feet)		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX				PRESERV.		SAMPLING																											
										GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME													
H245738		FS74		4'		C		1						X								X		9/18/24		1016						BTEX											
8		FS75		2.5'																						1205						TPH											
9		FS76		2.5'																						1338						Chloride											
10		FS82		5'																						1326																	
11																																											

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Relinquished By:		Date: 9/19/24		Received By:		Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Time: 1:57						All Results are emailed. Please provide Email address: alco10@ensolum.com / msarkis@ensolum.com			
Relinquished By:		Date:		Received By:		REMARKS:			
Time:									
Delivered By: (Circle One)		Observed Temp. °C: 3.4		Sample Condition: Cool Intact		CHECKED BY: (Initials): AP		Turnaround Time: Standard <input checked="" type="checkbox"/> Rush <input type="checkbox"/>	
Sampler - UPS - Bus - Other:		Corrected Temp. °C: 0.8		<input type="checkbox"/> Yes <input type="checkbox"/> No				Bacteria (only) Sample Condition: Cool Intact <input type="checkbox"/> Observed Temp. °C	
				<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No	
								Thermometer ID #113 #NO	
								Correction Factor: 0.5°C -0.0°C	

FORM-006 R 3.2 10/07/21

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 24, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/20/24 15:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/20/2024	Sampling Date:	09/20/2024
Reported:	09/24/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.804455, -103.770938		

Sample ID: SW22 0-4.5 (H245747-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2024	ND	1.94	96.9	2.00	9.04	
Toluene*	<0.050	0.050	09/23/2024	ND	1.92	95.9	2.00	8.44	
Ethylbenzene*	<0.050	0.050	09/23/2024	ND	1.99	99.4	2.00	7.64	
Total Xylenes*	<0.150	0.150	09/23/2024	ND	5.95	99.2	6.00	7.49	
Total BTEX	<0.300	0.300	09/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/23/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2024	ND	212	106	200	0.972	
DRO >C10-C28*	<10.0	10.0	09/24/2024	ND	218	109	200	1.47	
EXT DRO >C28-C36	<10.0	10.0	09/24/2024	ND					

Surrogate: 1-Chlorooctane 99.9 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.3 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/20/2024	Sampling Date:	09/20/2024
Reported:	09/24/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.804455, -103.770938		

Sample ID: SW35 0-5.5 (H245747-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2024	ND	1.94	96.9	2.00	9.04	
Toluene*	<0.050	0.050	09/23/2024	ND	1.92	95.9	2.00	8.44	
Ethylbenzene*	<0.050	0.050	09/23/2024	ND	1.99	99.4	2.00	7.64	
Total Xylenes*	<0.150	0.150	09/23/2024	ND	5.95	99.2	6.00	7.49	
Total BTEX	<0.300	0.300	09/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/23/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2024	ND	212	106	200	0.972	
DRO >C10-C28*	<10.0	10.0	09/24/2024	ND	218	109	200	1.47	
EXT DRO >C28-C36	<10.0	10.0	09/24/2024	ND					

Surrogate: 1-Chlorooctane 104 % 48.2-134

Surrogate: 1-Chlorooctadecane 92.3 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/20/2024	Sampling Date:	09/20/2024
Reported:	09/24/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.804455, -103.770938		

Sample ID: FS 94 5.5 (H245747-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2024	ND	1.94	96.9	2.00	9.04	
Toluene*	<0.050	0.050	09/23/2024	ND	1.92	95.9	2.00	8.44	
Ethylbenzene*	<0.050	0.050	09/23/2024	ND	1.99	99.4	2.00	7.64	
Total Xylenes*	<0.150	0.150	09/23/2024	ND	5.95	99.2	6.00	7.49	
Total BTEX	<0.300	0.300	09/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: CT					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3800	16.0	09/23/2024	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2024	ND	212	106	200	0.972	
DRO >C10-C28*	<10.0	10.0	09/24/2024	ND	218	109	200	1.47	
EXT DRO >C28-C36	<10.0	10.0	09/24/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																			
Project Manager: Aimee Cole				P.O. #:																							
Address: 3122 National Parks Hwy				Company: <i>Ensolum, LLC</i>																							
City: Carlsbad		State: NM		Zip: 88220		Attn: <i>Aimee Cole</i>																					
Phone #: (720) 384-7365		Fax #:		Address:																							
Project #: <i>03E2057107</i>		Project Owner:		City:																							
Project Name: <i>MCA 177</i>				State: Zip:																							
Project Location: <i>32.804455, -103.770938</i>				Phone #:																							
Sampler Name: <i>Mario Sarkis</i>				Fax #:																							
FOR LAB USE ONLY																											
Lab I.D.	Sample I.D.	Depth (feet)	(GRAB OR (C)OMP. # CONTAINERS	MATRIX				PRESERV.		SAMPLING																	
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME													
<i>H245747</i>	<i>SW22</i>	<i>0-4.5</i>	<i>1</i>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<i>9/20/24</i>	<i>0922</i>	<i>BTEX</i>	<i>TRH</i>	<i>Chloride</i>										
<i>1</i>	<i>SW35</i>	<i>0-5.5</i>	<i>1</i>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<i>1200</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<i>2</i>	<i>FS94</i>	<i>5.5</i>	<i>1</i>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		<i>0919</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<i>3</i>																											
<i>4</i>																											
<i>4/17/2024</i>																											

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Relinquished By:	Date: <i>9/20/24</i> Time: <i>15:25</i>	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Relinquished By:	Date:	Received By:	REMARKS:
Delivered By: (Circle One)	Observed Temp. °C: <i>4.7</i>	Sample Condition: <input checked="" type="checkbox"/> Cool <input checked="" type="checkbox"/> Intact	Turnaround Time: Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>
Sampler - UPS - Bus - Other:	Corrected Temp. °C: <i>2.9</i>	Checked By: (Initials) <i>TD</i>	Bacteria (only) Sample Condition: Cool <input type="checkbox"/> Intact <input type="checkbox"/> Observed Temp. °C: <i>48-N</i>
			Thermometer ID #113 <i>#140</i> Correction Factor -0.5°C <i>7.9/20/24</i>

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 26, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/20/24 15:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/20/2024	Sampling Date:	09/20/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	** (See Notes)
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.804455, -103.770938		

Sample ID: SW 27 0-4 (H245748-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2024	ND	1.94	96.9	2.00	9.04	
Toluene*	<0.050	0.050	09/23/2024	ND	1.92	95.9	2.00	8.44	
Ethylbenzene*	<0.050	0.050	09/23/2024	ND	1.99	99.4	2.00	7.64	
Total Xylenes*	<0.150	0.150	09/23/2024	ND	5.95	99.2	6.00	7.49	
Total BTEX	<0.300	0.300	09/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/23/2024	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2024	ND	212	106	200	0.972	
DRO >C10-C28*	<10.0	10.0	09/24/2024	ND	218	109	200	1.47	
EXT DRO >C28-C36	<10.0	10.0	09/24/2024	ND					

Surrogate: 1-Chlorooctane 99.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 88.2 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/20/2024	Sampling Date:	09/20/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	** (See Notes)
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.804455, -103.770938		

Sample ID: SW 28 0-4 (H245748-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2024	ND	2.19	110	2.00	2.41	
Toluene*	<0.050	0.050	09/23/2024	ND	2.12	106	2.00	0.238	
Ethylbenzene*	<0.050	0.050	09/23/2024	ND	2.16	108	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2024	ND	6.49	108	6.00	1.51	
Total BTEX	<0.300	0.300	09/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	09/23/2024	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2024	ND	212	106	200	0.972	
DRO >C10-C28*	<10.0	10.0	09/24/2024	ND	218	109	200	1.47	
EXT DRO >C28-C36	<10.0	10.0	09/24/2024	ND					

Surrogate: 1-Chlorooctane 99.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/20/2024	Sampling Date:	09/20/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	** (See Notes)
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.804455, -103.770938		

Sample ID: SW 30 0-5 (H245748-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/23/2024	ND	2.19	110	2.00	2.41		
Toluene*	<0.050	0.050	09/23/2024	ND	2.12	106	2.00	0.238		
Ethylbenzene*	<0.050	0.050	09/23/2024	ND	2.16	108	2.00	1.09		
Total Xylenes*	<0.150	0.150	09/23/2024	ND	6.49	108	6.00	1.51		
Total BTEX	<0.300	0.300	09/23/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	09/23/2024	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/24/2024	ND	212	106	200	0.972		
DRO >C10-C28*	<10.0	10.0	09/24/2024	ND	218	109	200	1.47		
EXT DRO >C28-C36	<10.0	10.0	09/24/2024	ND						

Surrogate: 1-Chlorooctane 116 % 48.2-134

Surrogate: 1-Chlorooctadecane 102 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/20/2024	Sampling Date:	09/20/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	** (See Notes)
Project Number:	03E2057107	Sample Received By:	Tamara Oldaker
Project Location:	32.804455, -103.770938		

Sample ID: SW 25 0-5 (H245748-04)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2024	ND	2.19	110	2.00	2.41	
Toluene*	<0.050	0.050	09/23/2024	ND	2.12	106	2.00	0.238	
Ethylbenzene*	<0.050	0.050	09/23/2024	ND	2.16	108	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2024	ND	6.49	108	6.00	1.51	
Total BTEX	<0.300	0.300	09/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	09/23/2024	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/24/2024	ND	212	106	200	0.972	
DRO >C10-C28*	<10.0	10.0	09/24/2024	ND	218	109	200	1.47	
EXT DRO >C28-C36	<10.0	10.0	09/24/2024	ND					

Surrogate: 1-Chlorooctane 101 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.5 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST																			
Project Manager: Aimee Cole				P.O. #:																							
Address: 3122 National Parks Hwy				Company: <u>ENSOLUM, LLC</u>																							
City: Carlsbad		State: NM		Zip: 88220		Attn: <u>Aimee Cole</u>																					
Phone #: (720) 384-7365		Fax #:		Address:																							
Project #: <u>03E2057107</u>		Project Owner:		City:																							
Project Name: <u>MCA 177</u>		Project Location: <u>32.804455, -103.770938</u>		State: Zip:																							
Sampler Name: <u>Mario Sarkis</u>		Fax #:																									
FOR LAB USE ONLY																											
Lab I.D.	Sample I.D.	Depth (feet)	(GRAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.			SAMPLING															
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME													
<u>1205748</u>	<u>SW27</u>	<u>0-4</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>9/20/24</u>	<u>0924</u>	<u>BTEX</u>	<u>TPH</u>	<u>Chlorides</u>										
<u>2</u>	<u>SW28</u>	<u>0-4</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>0935</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<u>3</u>	<u>SW30</u>	<u>0-5</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>0946</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										
<u>4</u>	<u>SW25</u>	<u>0-5</u>	<u>1</u>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>1407</u>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>										

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Relinquished By:	Date: <u>9/20/24</u>	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:	
	Time: <u>1525</u>		All Results are emailed. Please provide Email address:		
Relinquished By:	Date:	Received By:	<u>acole@ensolum.com / msarkis@ensolum.com</u>		
	Time:		REMARKS:		
Delivered By: (Circle One)	Observed Temp. °C <u>5.3</u>	Sample Condition <u>Cool Intact</u>	CHECKED BY: (Initials) <u>YO</u>	Turnaround Time: <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Rush	Bacteria (only) <input type="checkbox"/> Yes <input type="checkbox"/> No
Sampler - UPS - Bus - Other:	Corrected Temp. °C <u>4.7</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Thermometer ID <u>#113 #140</u>	Cool Intact <input type="checkbox"/> Yes <input type="checkbox"/> No
		<input type="checkbox"/> No <input type="checkbox"/> No		Correction Factor <u>-0.5°C</u>	Observed Temp. °C
				<u>9/20/24</u>	Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 24, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/23/24 15:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/23/2024	Sampling Date:	09/23/2024
Reported:	09/24/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.804455, -103.770938		

Sample ID: SW 32 0-5.5' (H245765-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/23/2024	ND	2.19	110	2.00	2.41	
Toluene*	<0.050	0.050	09/23/2024	ND	2.12	106	2.00	0.238	
Ethylbenzene*	<0.050	0.050	09/23/2024	ND	2.16	108	2.00	1.09	
Total Xylenes*	<0.150	0.150	09/23/2024	ND	6.49	108	6.00	1.51	
Total BTEX	<0.300	0.300	09/23/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	09/24/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/23/2024	ND	205	102	200	1.86	
DRO >C10-C28*	<10.0	10.0	09/23/2024	ND	213	106	200	0.759	
EXT DRO >C28-C36	<10.0	10.0	09/23/2024	ND					

Surrogate: 1-Chlorooctane 98.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 90.5 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

- S-06 The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Ensolum, LLC				BILL TO				ANALYSIS REQUEST													
Project Manager: Aimee Cole				P.O. #:																	
Address: 3122 National Parks Hwy				Company: ENSOLUM, LLC																	
City: Carlsbad		State: NM		Zip: 88220		Attn: Aimee Cole															
Phone #: (720) 384-7365				Fax #:																	
Project #: 03E2057107				Project Owner:																	
Project Name: MCA 177				City:																	
Project Location: 32, 804455, -103.770938				State: Zip:																	
Sampler Name: Mario Sarkis				Phone #:																	
Fax #:																					
FOR LAB USE ONLY																					
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		SAMPLING		DATE	TIME	BTEX	TPH	Chlorides		
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:								
H245705 1	SW32	0-5.5	C	1			✓						✓	9/23/24	1008	✓	✓	✓			
<i>[Handwritten Signature]</i>																					

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Relinquished By: <i>[Signature]</i>	Date: 9/23/24	Received By: <i>[Signature]</i>	Verbal Result: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Add'l Phone #:
Relinquished By:	Time: 1555	Received By:	All Results are emailed. Please provide Email address:	
Delivered By: (Circle One)	Date:	Observed Temp. °C: 9.62	Turnaround Time: #140 - 0.62	Standard <input type="checkbox"/> Rush <input checked="" type="checkbox"/>
Sampler - UPS - Bus - Other:	Time:	Corrected Temp. °C: 1.02	Thermometer ID: #113	Bacteria (only) Sample Condition
		Sample Condition: Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Correction Factor: 0.5°C	Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		CHECKED BY: <i>[Signature]</i> (Initials)	24-hr	Observed Temp. °C
				Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

September 26, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/23/24 15:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/23/2024	Sampling Date:	09/23/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.804455, -103.770938		

Sample ID: SW 29 0-5' (H245766-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2024	ND	2.16	108	2.00	4.71	
Toluene*	<0.050	0.050	09/24/2024	ND	2.04	102	2.00	3.33	
Ethylbenzene*	<0.050	0.050	09/24/2024	ND	2.05	103	2.00	2.40	
Total Xylenes*	<0.150	0.150	09/24/2024	ND	6.14	102	6.00	1.53	
Total BTEX	<0.300	0.300	09/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	09/24/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2024	ND	205	103	200	1.26	
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	199	99.4	200	3.85	
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 89.0 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/23/2024	Sampling Date:	09/23/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.804455, -103.770938		

Sample ID: SW 31 0-2.5' (H245766-02)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/24/2024	ND	2.16	108	2.00	4.71	
Toluene*	<0.050	0.050	09/24/2024	ND	2.04	102	2.00	3.33	
Ethylbenzene*	<0.050	0.050	09/24/2024	ND	2.05	103	2.00	2.40	
Total Xylenes*	<0.150	0.150	09/24/2024	ND	6.14	102	6.00	1.53	
Total BTEX	<0.300	0.300	09/24/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	09/24/2024	ND	400	100	400	7.69	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/25/2024	ND	205	103	200	1.26	
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	199	99.4	200	3.85	
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND					

Surrogate: 1-Chlorooctane 100 % 48.2-134

Surrogate: 1-Chlorooctadecane 86.2 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/23/2024	Sampling Date:	09/23/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.804455, -103.770938		

Sample ID: SW 38 0-2.5' (H245766-03)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/24/2024	ND	2.16	108	2.00	4.71		
Toluene*	<0.050	0.050	09/24/2024	ND	2.04	102	2.00	3.33		
Ethylbenzene*	<0.050	0.050	09/24/2024	ND	2.05	103	2.00	2.40		
Total Xylenes*	<0.150	0.150	09/24/2024	ND	6.14	102	6.00	1.53		
Total BTEX	<0.300	0.300	09/24/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/24/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/25/2024	ND	205	103	200	1.26		
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	199	99.4	200	3.85		
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND						

Surrogate: 1-Chlorooctane 95.0 % 48.2-134

Surrogate: 1-Chlorooctadecane 84.0 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/23/2024	Sampling Date:	09/23/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.804455, -103.770938		

Sample ID: SW 26 0-4' (H245766-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/24/2024	ND	2.16	108	2.00	4.71		
Toluene*	<0.050	0.050	09/24/2024	ND	2.04	102	2.00	3.33		
Ethylbenzene*	<0.050	0.050	09/24/2024	ND	2.05	103	2.00	2.40		
Total Xylenes*	<0.150	0.150	09/24/2024	ND	6.14	102	6.00	1.53		
Total BTEX	<0.300	0.300	09/24/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	09/24/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/25/2024	ND	205	103	200	1.26		
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	199	99.4	200	3.85		
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND						

Surrogate: 1-Chlorooctane 92.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 80.1 % 49.1-148

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/23/2024	Sampling Date:	09/23/2024
Reported:	09/26/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Shalyn Rodriguez
Project Location:	32.804455, -103.770938		

Sample ID: SW 37 0-4' (H245766-05)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/24/2024	ND	2.16	108	2.00	4.71		
Toluene*	<0.050	0.050	09/24/2024	ND	2.04	102	2.00	3.33		
Ethylbenzene*	<0.050	0.050	09/24/2024	ND	2.05	103	2.00	2.40		
Total Xylenes*	<0.150	0.150	09/24/2024	ND	6.14	102	6.00	1.53		
Total BTEX	<0.300	0.300	09/24/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/24/2024	ND	400	100	400	7.69		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/25/2024	ND	205	103	200	1.26		
DRO >C10-C28*	<10.0	10.0	09/25/2024	ND	199	99.4	200	3.85		
EXT DRO >C28-C36	<10.0	10.0	09/25/2024	ND						

Surrogate: 1-Chlorooctane 90.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 79.1 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: Ensolum, LLC		BILL TO		ANALYSIS REQUEST													
Project Manager: Aimee Cole		P.O. #:															
Address: 3122 National Parks Hwy		Company: ENSOLUM LLC															
City: Carlsbad State: NM Zip: 88220		Attn: AIMEE COLE															
Phone #: (720) 384-7365 Fax #:		Address:															
Project #: 03E2057107 Project Owner:		City:															
Project Name: MCA 177		State: Zip:															
Project Location: 32, 804455, -103, 770938		Phone #:															
Sampler Name: Mario Sarmis		Fax #:															
FOR LAB USE ONLY																	
Lab I.D.	Sample I.D.	Depth (feet)	(GRAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.		SAMPLING		DATE	TIME	BTEX	TPH	Chlorides
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:					
H245710																	
1	SW29	0-5	1			✓				✓	✓	9/23/24	1209	✓	✓	✓	
2	SW31	0-2.5	1			✓				✓	✓		1215	✓	✓	✓	
3	SW38	0-2.5	1			✓				✓	✓		1212	✓	✓	✓	
4	SW26	0-4	1			✓				✓	✓		1410	✓	✓	✓	
5	SW37	0-4	1			✓				✓	✓		1405	✓	✓	✓	

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Relinquished By:	Date: 9/23/24	Received By:	Verbal Result: <input type="checkbox"/> Yes <input type="checkbox"/> No Add'l Phone #:
Time: 1555			All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	REMARKS: acole@ensolum.com / msarmis@ensolum.com
Time:			
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C: 1.0	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Turnaround Time: #140 - 0.0 Thermometer ID: #113 Correction Factor: -0.5°C
	Corrected Temp. °C: 1.0	CHECKED BY: (Initials) SR	Standard Rush <input checked="" type="checkbox"/> Bacteria (only) Sample Condition Cool Intact Observed Temp. °C <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> No Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabnm.com



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

October 01, 2024

AIMEE COLE

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: MCA 177

Enclosed are the results of analyses for samples received by the laboratory on 09/26/24 15:48.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 07 10 (H245881-01)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2024	ND	2.02	101	2.00	6.37	
Toluene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	3.27	
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.32	116	2.00	0.625	
Total Xylenes*	<0.150	0.150	09/28/2024	ND	7.03	117	6.00	0.101	
Total BTEX	<0.300	0.300	09/28/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	09/30/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38	
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND					

Surrogate: 1-Chlorooctane 103 % 48.2-134

Surrogate: 1-Chlorooctadecane 117 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 11 2 (H245881-02)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/28/2024	ND	2.02	101	2.00	6.37		
Toluene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	3.27		
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.32	116	2.00	0.625		
Total Xylenes*	<0.150	0.150	09/28/2024	ND	7.03	117	6.00	0.101		
Total BTEX	<0.300	0.300	09/28/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/30/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38		
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11		
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND						

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 122 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 11 6 (H245881-03)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2024	ND	2.02	101	2.00	6.37	
Toluene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	3.27	
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.32	116	2.00	0.625	
Total Xylenes*	<0.150	0.150	09/28/2024	ND	7.03	117	6.00	0.101	
Total BTEX	<0.300	0.300	09/28/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	09/30/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38	
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND					

Surrogate: 1-Chlorooctane 92.2 % 48.2-134

Surrogate: 1-Chlorooctadecane 105 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 05 6 (H245881-04)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/28/2024	ND	2.02	101	2.00	6.37		
Toluene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	3.27		
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.32	116	2.00	0.625		
Total Xylenes*	<0.150	0.150	09/28/2024	ND	7.03	117	6.00	0.101		
Total BTEX	<0.300	0.300	09/28/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 123 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1520	16.0	09/30/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38		
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11		
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND						

Surrogate: 1-Chlorooctane 99.5 % 48.2-134

Surrogate: 1-Chlorooctadecane 115 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 05 8 (H245881-05)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2024	ND	2.02	101	2.00	6.37	
Toluene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	3.27	
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.32	116	2.00	0.625	
Total Xylenes*	<0.150	0.150	09/28/2024	ND	7.03	117	6.00	0.101	
Total BTEX	<0.300	0.300	09/28/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2640	16.0	09/30/2024	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38	
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND					

Surrogate: 1-Chlorooctane 106 % 48.2-134

Surrogate: 1-Chlorooctadecane 126 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 05 11 (H245881-06)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/28/2024	ND	2.02	101	2.00	6.37		
Toluene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	3.27		
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.32	116	2.00	0.625		
Total Xylenes*	<0.150	0.150	09/28/2024	ND	7.03	117	6.00	0.101		
Total BTEX	<0.300	0.300	09/28/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	368	16.0	09/30/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38		
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11		
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND						

Surrogate: 1-Chlorooctane 95.8 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/25/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 03 6 (H245881-07)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	7.76	QR-03	
Toluene*	<0.050	0.050	09/28/2024	ND	2.09	104	2.00	11.2	QR-03	
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.13	106	2.00	13.3	QM-07, QR-03	
Total Xylenes*	<0.150	0.150	09/28/2024	ND	6.41	107	6.00	14.0	QM-07, QR-03	
Total BTEX	<0.300	0.300	09/28/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/30/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38		
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11		
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND						

Surrogate: 1-Chlorooctane 99.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/26/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 12 2 (H245881-08)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	7.76		
Toluene*	<0.050	0.050	09/28/2024	ND	2.09	104	2.00	11.2		
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.13	106	2.00	13.3		
Total Xylenes*	<0.150	0.150	09/28/2024	ND	6.41	107	6.00	14.0		
Total BTEX	<0.300	0.300	09/28/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	09/30/2024	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38		
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11		
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND						

Surrogate: 1-Chlorooctane 99.6 % 48.2-134

Surrogate: 1-Chlorooctadecane 116 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/26/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 12 6 (H245881-09)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	7.76	
Toluene*	<0.050	0.050	09/28/2024	ND	2.09	104	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.13	106	2.00	13.3	
Total Xylenes*	<0.150	0.150	09/28/2024	ND	6.41	107	6.00	14.0	
Total BTEX	<0.300	0.300	09/28/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/30/2024	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38	
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND					

Surrogate: 1-Chlorooctane 98.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 112 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/26/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: PH 12 11 (H245881-10)

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	7.76		
Toluene*	<0.050	0.050	09/28/2024	ND	2.09	104	2.00	11.2		
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.13	106	2.00	13.3		
Total Xylenes*	<0.150	0.150	09/28/2024	ND	6.41	107	6.00	14.0		
Total BTEX	<0.300	0.300	09/28/2024	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	09/30/2024	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38		
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11		
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND						

Surrogate: 1-Chlorooctane 95.4 % 48.2-134

Surrogate: 1-Chlorooctadecane 114 % 49.1-148

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Analytical Results For:

ENSOLUM
 AIMEE COLE
 3122 NATIONAL PARKS HWY
 CARLSBAD NM, 88220
 Fax To:

Received:	09/26/2024	Sampling Date:	09/26/2024
Reported:	10/01/2024	Sampling Type:	Soil
Project Name:	MCA 177	Sampling Condition:	Cool & Intact
Project Number:	03E2057107	Sample Received By:	Alyssa Parras
Project Location:	32.804455, -103.770938		

Sample ID: BACKFILL (H245881-11)

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/28/2024	ND	2.20	110	2.00	7.76	
Toluene*	<0.050	0.050	09/28/2024	ND	2.09	104	2.00	11.2	
Ethylbenzene*	<0.050	0.050	09/28/2024	ND	2.13	106	2.00	13.3	
Total Xylenes*	<0.150	0.150	09/28/2024	ND	6.41	107	6.00	14.0	
Total BTEX	<0.300	0.300	09/28/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/30/2024	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/28/2024	ND	184	91.9	200	1.38	
DRO >C10-C28*	<10.0	10.0	09/28/2024	ND	190	94.8	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	09/28/2024	ND					

Surrogate: 1-Chlorooctane 93.3 % 48.2-134

Surrogate: 1-Chlorooctadecane 107 % 49.1-148

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Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
** Samples not received at proper temperature of 6°C or below.
*** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

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Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 393372

QUESTIONS

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2411745248
Incident Name	NAPP2411745248 MCA UNIT #177 @ 0
Incident Type	Produced Water Release
Incident Status	Reclamation Report Received

Location of Release Source	
<i>Please answer all the questions in this group.</i>	
Site Name	MCA UNIT #177
Date Release Discovered	04/25/2024
Surface Owner	Federal

Incident Details	
<i>Please answer all the questions in this group.</i>	
Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	No
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	No
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release	
<i>Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Other Other (Specify) Produced Water Released: 33 BBL Recovered: 0 BBL Lost: 33 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	No
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	A well casing failure resulted in a release of approximately 33 bbls of produced water onto the surrounding well pad. The released fluid traveled south along the lease road and into the surrounding pasture.

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS, Page 2

Action 393372

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.
<i>With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.</i>	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

I hereby agree and sign off to the above statement	Name: Aimee Cole Email: acole@ensolum.com Date: 10/17/2024
--	---

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Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS, Page 3

Action 393372

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Site Characterization
Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 75 and 100 (ft.)
What method was used to determine the depth to ground water	NM OSE iWaters Database Search
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1000 (ft.) and ½ (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Between 1 and 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Between 1 and 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	9730
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	674
GRO+DRO (EPA SW-846 Method 8015M)	487
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	06/06/2024
On what date will (or did) the final sampling or liner inspection occur	09/26/2024
On what date will (or was) the remediation complete(d)	09/26/2024
What is the estimated surface area (in square feet) that will be reclaimed	18500
What is the estimated volume (in cubic yards) that will be reclaimed	4900
What is the estimated surface area (in square feet) that will be remediated	18500
What is the estimated volume (in cubic yards) that will be remediated	4900

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS, Page 4

Action 393372

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Remediation Plan (continued)

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:

(Select all answers below that apply.)

(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	R360 ARTESIA LLC LANDFARM [FEEM0112340644]
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Not answered.
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

I hereby agree and sign off to the above statement	Name: Aimee Cole Email: acole@ensolum.com Date: 10/17/2024
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The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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General Information
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Action 393372

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Deferral Requests Only	
<i>Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.</i>	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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Action 393372

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	385202
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	09/23/2024
What was the (estimated) number of samples that were to be gathered	15
What was the sampling surface area in square feet	3000

Remediation Closure Request

Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.

Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	18500
What was the total volume (cubic yards) remediated	4900
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	18500
What was the total volume (in cubic yards) reclaimed	4900
Summarize any additional remediation activities not included by answers (above)	Impacted soil was excavated to below the reclamation requirements in the top 4 feet and to below the Site Closure Criteria at depths greater than 4 feet.

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Aimee Cole Email: acole@ensolum.com Date: 10/17/2024
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QUESTIONS, Page 7

Action 393372

QUESTIONS (continued)

Operator: Maverick Permian LLC 1000 Main Street, Suite 2900 Houston, TX 77002	OGRID: 331199
	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Reclamation Report	
<i>Only answer the questions in this group if all reclamation steps have been completed.</i>	
Requesting a reclamation approval with this submission	Yes
What was the total reclamation surface area (in square feet) for this site	18500
What was the total volume of replacement material (in cubic yards) for this site	4900
<i>Per Paragraph (1) of Subsection D of 19.15.29.13 NMAC the reclamation must contain a minimum of four feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0, or other test methods approved by the division. The soil cover must include a top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.</i>	
Is the soil top layer complete and is it suitable material to establish vegetation	Yes
On what (estimated) date will (or was) the reseeded commence(d)	10/04/2024
Summarize any additional reclamation activities not included by answers (above)	The excavation area was backfilled with locally procured soil and recontoured to match the surrounding topography. The disturbed areas were seeded with the BLM sandy sites seed mix #2.
<i>The responsible party must attach information demonstrating they have complied with all applicable reclamation requirements and any conditions or directives of the OCD. This demonstration should be in the form of attachments (in .pdf format) including a scaled site map, any proposed reseeded plans or relevant field notes, photographs of reclaimed area, and a narrative of the reclamation activities. Refer to 19.15.29.13 NMAC.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.	
I hereby agree and sign off to the above statement	Name: Aimee Cole Email: acole@ensolum.com Date: 10/17/2024

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Action 393372

QUESTIONS (continued)

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	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

QUESTIONS

Revegetation Report	
<i>Only answer the questions in this group if all surface restoration, reclamation and re-vegetation obligations have been satisfied.</i>	
Requesting a restoration complete approval with this submission	No
<i>Per Paragraph (4) of Subsection (D) of 19.15.29.13 NMAC for any major or minor release containing liquids, the responsible party must notify the division when reclamation and re-vegetation are complete.</i>	

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CONDITIONS

Action 393372

CONDITIONS

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	Action Number: 393372
	Action Type: [C-141] Reclamation Report C-141 (C-141-v-Reclamation)

CONDITIONS

Created By	Condition	Condition Date
nvez	None	2/11/2025